

March 1996

CLOSING
MAINTENANCE DEPOTSSavings, Workload, and
Redistribution Issues

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The Honorable Herbert Bateman
Chairman
The Honorable Norman Sisisky
Ranking Minority Member
Subcommittee on Military Readiness
Committee on National Security
House of Representatives

*Closing Maintenance Depots
Savings, Workload and
Redistribution Issues*

At your request, we reviewed selected issues related to the maintenance depot closures and realignments that resulted from decisions made by the Base Commission on Closure and Realignment. We found that (1) the Department of Defense (DOD) substantially reduced its savings estimates from closing maintenance depots, but is still overestimating the savings that will probably be achieved; (2) the number of employees involuntarily separated as a result of past closure decisions was minimized because of a comprehensive but costly employee assistance program; and (3) DOD is not using public-public or public-private competitions as a means of allocating public depot workloads. The report includes recommendations that, if implemented, should enable DOD to more cost-effectively redistribute closing depots' workloads.

We are sending copies of this report to the Chairmen and Ranking Minority Members, House and Senate Committees on Appropriations, House Committee on National Security and Senate Armed Services Committee, and Senate Committee on Governmental Affairs and House Committee on Government Reform and Oversight; the Director, Office of Management and Budget; and the Secretaries of Defense, the Army, the Air Force, and the Navy.

Please contact me at (202) 512-8412 if you have any questions. The major contributors to this report are listed in appendix II.

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Director, Defense Management Issues

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Executive Summary

Purpose

The Department of Defense (DOD) currently spends \$15 billion annually on maintaining aircraft, ships, tracked and wheeled vehicles, and other equipment. However, it believes it can reduce maintenance costs by better matching its depots' workload capacity with current maintenance requirements. Accordingly, as a result of the base closure and realignment process, DOD is closing 15 of its 36 major maintenance depots and is transferring their workloads to other depots or the private sector.

The Chairman and Ranking Minority Member, Subcommittee on Military Readiness, House Committee on National Security, requested that GAO (1) assess the reliability of DOD's depot closure cost and savings estimates; (2) obtain information on the policies and programs used to provide employment and training opportunities to employees at closing depots; (3) determine if the military services can increase savings by using competitions between DOD depots (public-public competitions) or between DOD depots and the private sector (public-private competitions) when redistributing closing depots' workloads; and (4) determine if the military services adequately consider other services' depots when they use methods other than competition to redistribute the workloads. The scope of this report is limited to the 10 depots that were recommended for closure during the first 3 rounds of the base closure process.

Background

Since the early 1970s, GAO and others have repeatedly reported on the redundancies and excess capacity that exist in DOD's depot maintenance operations and have recommended increased integration and centralized management to resolve the problem. However, the military services have historically preferred to retain control of their depot maintenance operations and allocate the workload for key systems to their own depots, which frequently duplicate capabilities in other services' depots.

Two things have exacerbated DOD's excess capacity problem in recent years. First, changing world conditions and other factors have significantly reduced DOD's depot maintenance requirements. Second, the private sector, which has seen its production workload for new systems and equipment decline as a result of the same conditions, is seeking more of the depot maintenance workload.

Although some downsizing has been accomplished by mothballing or disposing of equipment and by vacating buildings or converting them to other uses, the problem of excess capacity has, for the most part, been addressed through the base closure and realignment process. Three Navy

shipyards, three naval aviation depots, one Air Force depot, and three Army depots are being closed as a result of the first three rounds of the base closure process. In addition, one Army depot, two Air Force depots, one Navy shipyard, and one naval aviation facility are being closed as a result of the 1995 round.

Results in Brief

DOD has substantially reduced its initial estimates for the net savings that depot closures will achieve during the 6-year implementation period allowed by law and, to a lesser extent, for the annual savings after the implementation period has been completed. Although DOD believes its estimates have improved, current estimates still do not accurately reflect potential savings because (1) some closure-related costs are not included and (2) some estimates have not been updated to reflect major changes in such areas as the expected cost of doing the work after it is transferred to new sources of repair. As a result, the magnitude of savings is uncertain.

With the prospects of losing their jobs when depots close, employees face a number of career and life-altering decisions. However, by offering a comprehensive and costly outplacement program that provides assistance, benefits, and separation incentives, DOD has greatly facilitated this transition and has thus far successfully limited the number of depot employees who were involuntarily separated. In addition, although jobs have not always been available in the same geographical area, they have often been available for employees willing to relocate.

The military services can substantially increase their savings by ensuring that closing depots' workloads are transferred to the most cost-effective source of repair. They can accomplish this goal by (1) conducting public-public and public-private competitions for the work or (2) by analyzing the cost-effectiveness of moving the work to not only their own depots but also those of the other services. In addition, they can improve the efficiency of their operations and reengineer workloads that are transferred from closing depots without competition.

However, neither DOD nor the military services have taken action to maximize these savings. For example, GAO found that (1) public-public and public-private competition programs were discontinued in May 1994; (2) the Air Force is implementing a privatization-in-place plan that will likely increase maintenance costs; (3) the military services rarely consider interservicing alternatives (one service relying on another service for depot maintenance support) when they redistribute workloads; and

(4) neither DOD nor the services require depots to reengineer workloads they receive from closing depots.

Principal Findings

Savings Estimates Have Decreased

DOD and the base closure and realignment commissions used the Cost of Base Realignment Actions model to develop preliminary cost and savings estimates for each depot closure. After the President and Congress accepted the commissions' recommendations, the services provided updated—and what they considered to be more reliable—cost and savings estimates in their annual budget submissions to Congress. One major difference between the preliminary estimates and the budget estimates was that the model used to develop the preliminary estimates excluded environmental cleanup costs, which DOD is liable for regardless of whether a depot closes or not.

Although not directly comparable, the services' budget estimates of total net savings that the 10 depot closures will achieve during the 6-year implementation are 85 percent less than the commissions' estimates (\$222.4 million versus \$1,437.8 million). The primary reasons for this difference are (1) a \$711.1-million reduction in the amount of gross savings that are expected during the implementation period resulting from such factors as fewer than expected reductions in the number of personnel eliminated; (2) the addition of a one-time environmental cost of \$409.1 million that was excluded from the commission's estimates; and (3) a \$100.5-million increase in nonenvironmental costs for such things as relocating civilian employees. The budget estimates for the total annual savings after the implementation period are 10 percent less than the commissions' estimates (\$656 million versus \$729 million).

Current Estimates Still Overstate Savings

Current estimates may be better than those used by base closure and realignment commissions, but they still do not accurately reflect the costs and savings that are likely to occur. First, the estimates exclude some closure-related costs that are being financed through the Defense Business Operations Fund or with operation and maintenance funds. Second, the services have not updated their savings estimates since their initial budget estimates, even though significant changes have occurred in such items as

the expected cost of accomplishing depot maintenance work after it is moved from a closing depot to a new source of repair.

In addition, DOD lacks effective tools for estimating the recurring costs of depot maintenance operations in a post-closure environment—a condition that could cause the services to select more costly alternatives when deciding how to redistribute closing depots' workloads. For example, the decision to privatize-in-place the depot maintenance workload at the closing Air Force Aerospace Guidance and Metrology Center may result in an increase rather than decrease in costs.

Further, DOD does not require the military services to routinely accumulate and update actual savings information on depot closures and has not provided guidance on (1) how to compute actual savings after a depot is closed or (2) what records should be retained for determining the magnitude of the actual savings. As a result, DOD may not have reliable information on the costs and savings associated with depot closures, even after the closures are completed.

Efforts to Limit Involuntary Separations Have Been Successful, but Costly

DOD has thus far successfully limited the number of employees who have been involuntarily separated as a result of depots closures. As of July 31, 1995, 20,692 workers had either found other federal jobs or left government service as a result of depot closures. Altogether, 694 employees, or about 3.4 percent of the total, were separated through the reduction-in-force process; 11,286, or about 54.5 percent, found another job through such programs as DOD's priority placement program; and 8,712, or about 42.1 percent, separated voluntarily. To a large extent, this success can be attributed to legislative actions and to the services' comprehensive outplacement program that includes job placement assistance, job training opportunities, separation incentive pay for those who resign or retire voluntarily, and early retirement options.

Although complete data is not available, DOD's outplacement program is more costly than programs in most civilian agencies. For example, under one job placement program, employees at bases that will remain open are paid as much as \$25,000 to retire or resign voluntarily and are then replaced by employees from closing depots who are relocated at government expense (at a cost of as much as \$65,000 per employee). According to Office of Personnel Management officials, although civilian agencies have the legislative authority to provide many of the benefits

offered by DOD, the high cost of such benefits is a restraining factor—especially for smaller agencies.

Public Depot Competition Can Be Used to Increase Depot Closure Savings

DOD's public-public and public-private competitions of depot maintenance workloads have resulted in savings and benefits. Public-public competitions conducted in 1992 and 1993 for the Sacramento Army Depot's workload and public-private competitions for Navy aviation maintenance between 1987 and 1994 demonstrated that the services can increase their savings by using such competitions to redistribute closing depots' workloads. The primary reasons for this are (1) the competing depots have an incentive to reengineer a closing depot's work if they must compete for it, but do not if the work is simply transferred to them; (2) the competitions introduce the discipline and incentives of private industry by creating more of a buyer-seller relationship between the depots and their customers; and (3) the services can apply lessons learned during the competitions to similar, noncompeted workloads.

However, the Deputy Secretary of Defense discontinued DOD's public-public and public-private competition programs in May 1994. He stated that DOD's databases and financial management systems are not capable of providing the data needed to determine the actual cost of specific workloads. GAO agrees that DOD has problems with its databases and financial management systems and completely correcting these long-standing and well-documented problems is likely to take a long time. However, in the interim, DOD has taken actions to develop more reliable cost estimates and is taking further actions that should improve the competition process.

Interservice Workload Redistribution Alternatives Are Rarely Considered

Congress has long been a strong proponent of using interservicing to streamline and reduce depot maintenance costs. In addition, DOD believes the greatest potential for savings comes from redistributing closing depots' workloads. However, the services have not considered interservicing alternatives for most of the closing depots' workloads. Instead, most of the work has been or will be transferred quickly to either the parent services' remaining depots or the private sector. GAO found that (1) due largely to service parochialism, DOD has been trying for about 20 years—without significant success—to interservice depot maintenance workloads; (2) many workloads, such as Navy ships and large Air Force aircraft, are not considered susceptible to interservicing; and (3) only about 8 percent of the susceptible workload is accomplished through interservicing.

Public-Private Competitions Not Used in Allocating Closing Depot's Maintenance Workloads

Title 10 U.S.C. 2469 provides that competitive procedures that include public entities be used when privatizing depot maintenance workloads valued at \$3 million or more. DOD canceled its public-private competition program in May 1994. The Air Force is privatizing the Aerospace Guidance and Metrology Center's workload without using competitive procedures that include public depots. DOD officials expressed differing views on the statute's application.

Recommendations

GAO recommends that the Secretary of Defense (1) implement procedures to capture relevant cost and savings data on depot closures; (2) improve the process for estimating recurring costs of maintenance operations in a post-closure environment; (3) implement a high-priority program to resolve internal control deficiencies in depot management systems; (4) maximize the use of competitive procedures and merit-based selection criteria that include military depots in determining the most cost-effective source of repair for workloads that have not yet been transferred from closing depots; and (5) require the services to reengineer workloads that are redistributed from closing depots on any basis other than competition, starting with the largest and most stable workloads.

Agency Comments

DOD provided official oral comments. With two exceptions, DOD officials generally agreed with GAO's findings and recommendations. First, although they agreed that costs and savings estimates associated with depot closures are not completely accurate, they noted it would not be a cost-effective use of scarce resources to develop more accurate estimates—especially since the last base closure round has been completed. GAO believes that accumulating actual cost and savings data or revising estimates should not be overly cumbersome because depots are already required to compare their budgeted and actual costs and to determine the cause of any significant variances. Further, the services could make more informed and cost-effective workload redistribution decisions if they had more reliable cost and savings data on past closures.

Second, DOD officials noted that public-private competitions—which GAO has recommended be reinstituted—were reinstituted through a November 1994 memorandum from the Deputy Under Secretary of Defense to the service secretaries implementing 10 U.S.C. 2470. GAO notes that no such competitions have been conducted since the program was terminated in 1994. Further, DOD policy prohibits its depots from

participating in public-private competitions until the Defense Finance Accounting Service certifies that adequate financial systems and procedures are in place to identify and track all costs. Given these and other factors, GAO continues to believe that DOD has not effectively reinstituted its public-private competition program and should do so. GAO's recent report on the Navy's implementation of the program includes this recommendation.¹

GAO continues to believe that to identify the most cost-effective source of repair for transferring maintenance workloads from closing depots, DOD should maximize the use of competitive procedures that include military depots.

¹Navy Maintenance: Assessment of the Public-Private Competition Program for Aviation Maintenance (GAO/NSIAD-96-30, Jan. 22, 1996).

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Abbreviations

AGMC	Aerospace Guidance and Metrology Center
BRAC	Base Closure and Realignment Commission
CECOM	Army Communications-Electronics Command
COBRA	cost of base realignment actions
DOD	Department of Defense
GAO	General Accounting Office
VSIP	voluntary separations incentive pay

Introduction

The Department of Defense (DOD) annually spends \$15 billion¹ for depot maintenance work that involves the repair, overhaul, modification, and upgrading of aircraft, ships, tracked and wheeled vehicles, and other equipment. This work, which also includes limited parts manufacturing, technical support, testing, reclamation, and software maintenance, is performed by both public depots and the private sector.

A combination of factors, including declining maintenance requirements and increasing pressures to outsource more and more work to the private sector, has caused DOD to downsize its depot maintenance infrastructure. This downsizing has taken place largely through the base closure and realignment (BRAC) process.

Depot Maintenance Overview

Prior to downsizing, DOD had 36 major maintenance depots—8 Army depots, 6 naval aviation depots, 8 shipyards, 2 ship repair activities, 3 Navy warfare centers, 7 Air Force depots, and 2 Marine Corps depots—as well as other industrial facilities with a depot maintenance mission. This total includes 15 depots that are closing, 6 of which have already ceased maintenance operations. It does not include an Air Force depot maintenance activity in Colorado Springs that performs software maintenance for space systems or most specialized government-owned, contractor-operated repair depots.

These depots, which represent a large government investment, have historically had more extensive technical capability—in terms of the facilities, equipment, and personnel—than lower maintenance levels.² However, in recent years, various programs within the military services have resulted in blending some of the maintenance levels.

In addition to in-house depot maintenance capability, DOD also contracts with thousands of firms, including both repair houses and original equipment manufacturers. These firms supply parts and provide direct maintenance support in both their own facilities and government facilities.

¹This total includes \$2 billion that is spent installing various weapon systems and equipment modifications and upgrades—depot-level maintenance functions that are budgeted under procurement appropriations rather than operation and maintenance appropriations.

²The other two levels are (1) organizational maintenance, where members of operational military units make functional checks and then adjust, service, or replace faulty parts and (2) intermediate maintenance, where military personnel perform more extensive repairs—many of which require a shop environment.

In our April 1994 testimony,³ we reported that DOD's estimate of the workload mix between the public and private sectors—about 35 percent to the private sector and the remainder to public depots—understated the portion of private sector funding. We noted that an actual accounting of the amount going to the private sector, either directly or through the purchase of repair parts or secondary services, was not readily available because of limitations in the way DOD collected data. However, based on our review of available data, we projected that more than 50 percent of depot maintenance funds goes to the private sector.

Figure 1.1 depicts DOD's major depots, which collectively employ about 100,000 civilian employees and 2,000 military personnel. A brief history of each military service's depot system is provided in appendix I.

³Depot Maintenance: Issues in Allocating Workload Between the Public and Private Sectors (GAO/T-NSIAD-94-161, Apr. 12, 1994).

Figure 1.1: DOD's Depot Maintenance System



Depot Downsizing Has Occurred Largely Through BRAC

A combination of factors has created too much depot maintenance capacity in the military services' depots. These factors include (1) the downsizing of the armed forces due to the end of the Cold War; (2) efforts by some DOD components to conduct more repairs in field-level maintenance activities; (3) pressures by the defense industry to contract out more depot work to the private sector; and (4) the increased

reliability, maintainability, and durability of most military systems and equipment.

Some initiatives—namely consolidating workloads, implementing competition between government depots and the private sector, mothballing depot plant equipment, and tearing down unused buildings or converting them to other military uses—have been undertaken to reduce some of the excess capacity. However, depot downsizing has largely occurred through the BRAC process.

Closing unneeded facilities has never been easy, partly because of the public's concerns about the effects of closures on communities and about the impartiality of the decision-making process. Additionally, 1970s legislation requiring congressional notification of proposed closures and preparation of economic, environmental, and strategic consequence reports has greatly impeded base closure efforts. Legislation enacted in 1988 (P.L. 100-526) facilitated a successful round of base closure decision-making. It outlined a special process for considering base closure actions, authorized a special commission to review proposed closures and realignments, and provided relief from certain statutory provisions that hindered the base closure process.

In 1990, the Secretary of Defense found it was difficult to complete additional base closure actions without special enabling legislation. Therefore, Congress passed the Defense Base Closure and Realignment Act of 1990 (title XXIX, P.L. 101-510), which halted any major closures unless DOD followed the new act's requirements. The act created independent BRAC commissions and outlined procedures, roles, and time frames for the President, Congress, DOD, GAO, and the commissions to follow. It required that all bases be compared equally against (1) selection criteria to be developed by DOD and (2) DOD's current force structure plan. The legislation mandated rounds of BRAC reviews in 1991, 1993, and 1995.

The first 3 rounds of the BRAC process resulted in decisions to close 10 maintenance depots: 1 in BRAC 1988, 2 in BRAC 1991, and 7 in BRAC 1993. Six of these depots are located on bases that are being closed completely, but four—the Norfolk and Pensacola naval aviation depots and the Lexington-Bluegrass and Tooele Army depots—are located on bases that will continue to perform missions other than depot maintenance. Eight of the depots have had or will have all or portions of their land and facilities made available to the local community for reuse; however, the Navy plans to retain all of the Norfolk and Pensacola naval aviation depots' land and

facilities for other missions. For purposes of this report, all BRAC actions where depot maintenance operations will cease at a location are referred to as "depot closures."

Table 1.1 shows the depots recommended for closure, the dates they either did or will cease maintenance operations, and their actual or planned closure dates.

Table 1.1: Maintenance Depots Identified for Closure by the 1988, 1991, and 1993 BRAC Rounds

Depot	BRAC round	Cease maintenance operations	Planned/actual closure date
Lexington-Bluegrass Army Depot	1988	9/94	9/95 ^a
Sacramento Army Depot	1991	9/94	3/95 ^b
Philadelphia Naval Shipyard	1991	9/95	9/96
Charleston Naval Shipyard	1993	9/95	4/96
Mare Island Naval Shipyard	1993	4/95	4/96
Alameda Naval Aviation Depot	1993	9/96	3/97
Norfolk Naval Aviation Depot	1993	9/96	3/97 ^a
Pensacola Naval Aviation Depot	1993	9/95	3/96 ^a
Tooele Army Depot	1993	5/95	9/96 ^a
Aerospace Guidance and Metrology Center, Newark Air Force Base	1993	8/96 ^c	9/96

^aThese depots are located on bases that are being realigned rather than closed and that will continue performing nonmaintenance missions.

^bAlthough most of the depot's land and facilities were turned over to the local community, some were retained pending completion of environmental cleanup work.

^cSince the closure plan involves turning the facility over to private contractors rather than closing it, maintenance operations will not actually cease but will be transferred to the private sector. Additionally, DOD civilians will continue to perform part of the metrology and calibration mission since the functions they perform have been determined to be "inherently governmental."

DOD's report to the 1995 BRAC Commission included recommendations to (1) realign the Letterkenny Army Depot and the Naval Undersea Warfare Center, Keyport, Washington;⁴ (2) close the Red River Army Depot, Long Beach Naval Shipyard, and Naval Surface Warfare Center, Crane Division Detachment, Louisville, Kentucky; and (3) reduce the five air logistics centers' excess capacity by consolidating various workloads, disposing or mothballing depot plant equipment, and tearing down buildings. DOD estimated that this approach would reduce the Air Force's excess capacity

⁴Although the warfare centers had previously been categorized as technical centers rather than depot maintenance activities, their missions included performing some depot maintenance workload.

by 1.5 depot equivalents. However, after these recommendations were forwarded to the BRAC Commission for review, the Commission added all five air logistics centers, Portsmouth Naval Shipyard, and Tobyhanna Army Depot to the list for further review.

The Commission ultimately recommended closing the Long Beach Naval Shipyard; the Naval Surface Warfare Center, Crane Division Detachment, Louisville, Kentucky; and the Sacramento and San Antonio Air Logistics Centers. In addition, it recommended that (1) the depot maintenance mission be discontinued at the Letterkenny Army Depot (Pennsylvania); (2) the Naval Undersea Warfare Center, Keyport, Washington, retain its torpedo depot maintenance workload, but transfer its ship combat systems workload; and (3) the Red River Army Depot remain open and retain its Bradley Fighting Vehicle Series workload, but transfer its other maintenance missions to other depots or the private sector.

President Clinton disagreed with some of the Commission's recommendations, especially those that affected depots in California and Texas, but he ultimately approved the Commission's report on July 13, 1995, and forwarded it to Congress. Congress completed its review and accepted the Commission's recommendations in September 1995.

Objectives, Scope, and Methodology

The Chairman and Ranking Minority Member of the Subcommittee on Military Readiness, House Committee on National Security, requested that we (1) assess the reliability of DOD's depot closure cost and savings estimates; (2) obtain information on the policies and programs used to provide employment and training opportunities to employees at closing depots; (3) determine if the military services can increase depot closure savings by using competitions between DOD depots (public-public competitions) and between DOD depots and the private sector to redistribute closing depots' workloads; and (4) determine if the military services adequately consider other services' depots when they use methods other than public-public or public-private competitions to redistribute their closing depots' workloads.

To assess the reliability of depot closure cost and savings estimates, we analyzed the cost of base realignment actions (COBRA) and BRAC budget estimates. We also discussed the reliability of the estimates with DOD and service officials and examined financial documentation.

To obtain information on the policies and programs used to provide employment and training opportunities to employees at closing depots, we (1) reviewed relevant legislation and regulations; (2) discussed the policies and programs with cognizant depot officials; (3) determined the frequency that various actions, such as reductions-in-force, have been used to outplace depot employees; and (4) visited several depots' employment transition centers. To a limited extent, we also obtained information on the cost of the various programs.

To determine if public-public competitions have been used effectively to redistribute closing depots' workloads, we (1) obtained information on the scope and results of all public-public competitions that have been conducted, (2) reviewed competition savings projections, and (3) discussed the pros and cons of using public-public competitions to redistribute closing depots' workloads with officials at both the commands that conducted the competitions and the depots that competed for the workloads. We also evaluated the Deputy Secretary of Defense's rationale for canceling DOD's public-public and public-private competition programs in May 1994.

To determine if the military services adequately consider interservicing alternatives when using methods other than public-public competitions to redistribute closing depots' workloads, we documented the services' plans for redistributing the workloads and then discussed the methodology used to select new sources of repair with depot maintenance officials.

We performed our work at

- the Office of the Secretary of Defense;
- the services' headquarters;
- Headquarters, U.S. Army Materiel Command;
- Headquarters, Naval Air Systems Command;
- Headquarters, Naval Sea Systems Command;
- Headquarters, Air Force Materiel Command;
- Headquarters, U.S. Army Depot Systems Command, Chambersburg, Pennsylvania;
- the Naval Aviation Depot Operations Center, Patuxent River, Maryland;
- the U.S. Army Communications-Electronics Command, Fort Monmouth, New Jersey; and
- the U.S. Army Missile Command, Huntsville, Alabama.

We also performed work at four Army depots (Sacramento Army Depot, Sacramento, California; Tooele Army Depot, Tooele, Utah; Lexington-Bluegrass Army Depot, Lexington, Kentucky; and Tobyhanna Army Depot, Tobyhanna, Pennsylvania); three naval shipyards (Charleston Naval Shipyard, Charleston, South Carolina; Mare Island Naval Shipyard, Vallejo, California; and Philadelphia Naval Shipyard, Philadelphia, Pennsylvania); three naval aviation depots (Pensacola, Florida; Alameda, California; and Norfolk, Virginia); and the Aerospace Guidance and Metrology Center at Newark Air Force Base, Ohio.

We conducted our review in accordance with generally accepted government auditing standards. In conducting our review, we used the same accounting systems, reports, and statistics the services use to monitor their programs. Except where otherwise indicated, we did not independently determine the reliability of this information.

Magnitude of Savings Is Uncertain

DOD believes its current budget savings estimates are better than the Commission's estimates, but the actual savings are still uncertain. The current budget estimates indicate that closing the 10 depots will result in a net savings¹ of \$222.4 million during the 6-year implementation period allowed by law and an annual savings of \$656 million after that. Although not directly comparable, these estimates are considerably less than the Commission's estimates—85 percent less for the implementation period and 10 percent less in annual recurring savings. However, actual savings are still uncertain because (1) the budget estimates do not include many closure-related costs, (2) DOD has not updated the annual savings estimates since it submitted the initial budget estimates to Congress, and (3) DOD has not developed an effective methodology for estimating the cost of accomplishing closing depots' workloads at new sources of repair. Further, DOD has not developed a methodology to determine actual closure savings, and there are already indications that the data needed to make this determination will no longer be available after the closures have been completed.

As a result of these problems, the services lack reliable data for making their workload redistribution decisions and may be selecting more costly alternatives. For example, preliminary cost estimates indicate that the Air Force's decision to privatize-in-place work currently performed at the Aerospace Guidance and Metrology Center (AGMC) will increase costs rather than save money. Nevertheless, the services are either implementing or considering a similar approach at four of the five depots that the 1995 BRAC Commission recommended for closure.

Net Savings Estimates Have Decreased

Initially, DOD used the COBRA model to estimate the cost of and savings from closing each depot. It then provided COBRA estimates to each closure commission. Generally, commission reports include COBRA estimates of one-time costs, net savings for the 6-year implementation period, and annual recurring savings for subsequent years.

After the President and Congress accept the Commissions' recommendations, the services prepare cost and savings estimates for budget submissions to Congress. Requirements for budget submissions are established in the BRAC acts (P.L. 100-526, sec. 206 and P.L. 101-510, sec. 2907), which require that annual DOD budget requests (1) include cost and savings estimates for each closure or realignment and (2) indicate the time

¹Net savings equal the savings that will be achieved as a result of the closure (e.g., savings from eliminating base support costs) minus the cost of accomplishing the closure (e.g., relocation costs for employees that are transferred to new jobs at other bases).

for achieving these savings. The final budget estimate for the Lexington-Bluegrass Army Depot, which was the only depot closed during the first BRAC process, was submitted in February 1994. The latest budget estimates for the other nine depot closures were submitted in February 1995.

Defense and service officials emphasized that the COBRA model was never intended to provide budget-quality estimates, and they pointed out that budget and COBRA estimates are not directly comparable—primarily because the COBRA model excludes environmental cleanup costs. They said the COBRA estimates (1) were intended to be used to compare realignment and closure options, (2) are based on limited data, and (3) exclude environmental cleanup costs because DOD is liable for these costs regardless of whether a depot is closed or realigned.

Table 2.1 shows the differences between the BRAC Commissions' 6-year net savings estimates and the military services' latest budget estimates. As indicated, the major reasons for the \$1,215.4-million difference are (1) a \$711.1-million reduction in the amount of gross savings that are expected during the implementation period resulting from such factors as fewer than expected reductions in the number of personnel eliminated, (2) the addition of \$409.1 million in environmental costs, and (3) a \$100.5-million increase in nonenvironmental costs for such items as the relocation of civilian employees.

Table 2.1: Differences Between the 6-Year Cost and Savings Estimates in Commission Reports and the Latest Budget Estimate Submission for 10 Depots

Fiscal year 1996 dollars in millions			
	COBRA	Budget	Difference
Total savings	\$3,141.9	\$2,430.8	(\$711.1)
Land sales revenue	7.6	29.3	21.7
Less: Costs in BRAC account			
Environmental	N/A	409.1	409.1
Nonenvironmental	1,711.7	1,812.2	100.5
Total BRAC account	1,711.7	2,221.3	509.6
Costs financed outside the BRAC account	0	16.4	16.4
Total costs	\$1,711.7	\$2,237.7	\$526.0
Net savings	\$1,437.8	\$222.4	(\$1,215.4)

Estimates of annual recurring savings after the 6-year implementation period have also been reduced. Specifically, the Commissions' COBRA analyses indicated that closing the 10 depots would save about

\$729 million annually, when adjusted to fiscal year 1996 dollars, but DOD's current budget estimates indicate the savings will be only \$656 million annually. For example, the net savings estimate for Tooele Army Depot was reduced from the \$112.5-million estimate by COBRA to \$17.6 million in the budget over the 6-year implementation period, and from \$53.5 million (COBRA) to \$27.5 million (budget) for each subsequent year. Our analysis shows the reduction was largely due to a change in assumptions about the number of civilian positions that would be eliminated by the closure. The COBRA estimate assumed the elimination of 1,268 civilian positions, while the budget estimate assumed the elimination of 671 positions.

Budget Estimates Do Not Include Some Costs

DOD's current budget estimates understate the actual cost of closing the 10 depots. The primary reason for this is that they do not reflect closure-related costs that either have been or will be paid from the operation and maintenance account or by the Defense Business Operations Fund. For example, the Navy estimates that, through fiscal year 1995, closing naval aviation depots and shipyards will have accumulated operating losses of about \$882 million that will be recouped from its operation and maintenance account (\$695 million) or written off within the Fund (\$187 million). Only some of this loss is directly related to depot closures. For example:

- Naval aviation depots and shipyards were directed to freeze overhead rates at the time the closure decision was made and, as a result, they were unable to recover some of their overhead costs when their workloads declined.
- Two of the three closing shipyards have had losses from higher than normal leave usage that is not reflected in the Navy's BRAC budget estimates because this cost is being financed from the Navy's operation and maintenance account. The operation and maintenance account is paying for the \$7.8-million loss that the Charleston Naval Shipyard incurred in fiscal year 1994 and for losses the Philadelphia Naval Shipyard will incur during fiscal year 1995.
- The Navy's most current budget estimates do not reflect the impact of productivity reductions that naval aviation depots experienced after their closures were announced. For example, according to the Naval Depot Operations Center's information, direct labor efficiency for two aircraft repair programs—measured by comparing established norms to the actual number of direct labor hours required to overhaul EA6B aircraft at Alameda and A6E aircraft at Norfolk—declined about 9 percent and 2 percent, respectively, between fiscal year 1992 (the last full year before

closure was announced) and fiscal year 1994 (the first full year after closure was announced).

In addition, closing Army depots have incurred closure-related costs and losses that are being financed by the Defense Business Operations Fund. For example:

- In fiscal year 1993, the Sacramento Army Depot charged about \$12 million in closure-related costs to the Defense Business Operations Fund instead of the BRAC account. For example, the Navy and other organizations charged depot employees' voluntary separation incentive pay (VSIP)² to their BRAC account, but the Sacramento Army Depot used the Defense Business Operations Fund to finance these costs.
- The Sacramento Army Depot's maintenance mission ended in fiscal year 1994, but the Army continued to use Defense Business Operations Funds to finance base support and other costs during fiscal year 1995. This, in turn, caused the depot to incur about a \$6-million loss during the first 6 months of the fiscal year.

Budget Savings Estimates Have Not Been Updated

According to DOD officials, the services have not updated budget savings estimates to reflect some major changes that have occurred since they submitted their initial budgets to Congress. For example:

- The savings estimate for closing the Sacramento Army Depot was first submitted to Congress in January 1991 and remained unchanged in the February 1995 submission. However, as discussed in chapter 4, significant changes have occurred in not only the Army's plans for redistributing the depot's workload, but also the expected cost of accomplishing the work.
- Navy budget estimates indicate that the only savings that will accrue in fiscal years 1994 and 1995 from closing aviation depots will be a \$17.8-million cost avoidance due to canceled military construction projects. However, according to an analysis by the Naval Aviation Depot Operations Center, closing three aviation depots and consolidating work at the three remaining depots have enabled the Navy to reduce fiscal year 1995 customer rates by \$82.7 million.

²To encourage voluntary retirements and resignations, DOD gave employees at closing depots up to \$25,000 if they voluntarily retired or resigned. According to its fiscal year 1995 budget submission, the Army used its operation and maintenance account to reimburse the Defense Business Operations Fund for VSIP costs in fiscal year 1994, and it increased customer rates to pay for these costs in fiscal year 1995.

- In December 1994, we reported³ that closing AGMC could result in an annual recurring cost rather than the \$3.8-million savings that was initially projected in the Air Force's February 1994 budget submission. Air Force officials acknowledged that the closure and privatization of the Center could increase annual costs—possibly by as much as \$600 million over a 6-year period. Moreover, although AGMC customers have been told to budget more in future years for the same maintenance activities, the Air Force's February 1995 budget submission continued to show a projected annual savings of \$3.8 million.

DOD and service officials stated that savings estimates are not updated because, once savings are reflected in the budget, there is no reason to update the estimates unless significant new savings are identified.

Methodology Needed for Estimating Post-Closure Costs

DOD has not developed an effective methodology for estimating maintenance costs in a post-closure environment. Prior to the 1995 BRAC process, DOD officials recognized that they needed better estimates for projecting the savings from moving closing depots' workloads to new repair sources. They considered using an Economic and Personnel Analysis Model that was developed to evaluate the financial impact of various interservicing alternatives. However, although the model is compatible with the COBRA model, it requires an additional data call. Further, all of the services did not agree to use the model during the 1995 BRAC process. As a result, the model was not used during the 1995 BRAC round and is not being used to update budget savings estimates.

DOD Has Not Provided Adequate Guidance on How to Estimate Savings

DOD does not require the military services to routinely accumulate and update savings information on depot closures, and it has not provided guidance on (1) how to compute actual savings once the closures have been completed or (2) what records should be retained so that the magnitude of the actual savings can be determined. As a result, DOD may not have reliable information on the costs and savings associated with depot closures, even after the closures are completed.

In the absence of DOD guidance, data needed for tracking costs and savings are not being retained. For example, according to an Army Audit Agency manager, preliminary information obtained from an ongoing review of BRAC I bases, including the Lexington-Bluegrass Army Depot, indicates that

³Aerospace Guidance and Metrology Center: Cost Growth and Other Factors Affect Closure and Privatization (GAO/NSIAD-95-60, Dec. 9, 1994).

(1) no provision has been made to ensure the retention of needed records and (2) some of the information needed to estimate savings for these bases may no longer be available. Similarly, when we attempted to review cost and savings data from the Lexington-Bluegrass Depot, Army officials told us that records needed to develop depot closure cost and savings estimates had apparently been lost.

At the request of the Subcommittee on National Security, International Affairs and Criminal Justice, House Committee on Government Reform and Oversight, we are reviewing estimated and actual savings from past base closure and realignment actions, including depots. As a part of that review, we are also addressing issues related to the development of budget estimates and measurement of actual savings.

In addition, in response to several congressional requests, including one from the House Committee on National Security, we are also reviewing DOD's plans to privatize depot maintenance workloads. Specifically, we are reviewing the methodology the services plan to use when they evaluate the cost-effectiveness of implementing a privatization-in-place concept at AGMC, the Letterkenny and Red River Army depots, the Sacramento and San Antonio Air Logistics Centers, and the Naval Surface Warfare Center, Crane Division Detachment, Louisville, Kentucky.

Conclusions

DOD's budget estimates show that the savings from the 10 BRAC-recommended depot closures will be lower than the BRAC Commissions original estimate. Further, questions remain about the overall accuracy of DOD's budget estimates. In some cases, certain costs have not been included or estimates have not been updated to reflect significant changes. Such information is needed to periodically update defense managers and Congress on the amount of savings. DOD does not currently have a standardized approach for capturing and presenting costs and savings data, nor does it have a sound process for estimating recurring costs of conducting maintenance operations in a post-closure environment. Both of these elements are essential to evaluate the cost-effectiveness of alternatives for conducting maintenance operations after depots close.

Recommendations

We recommend that the Secretary of Defense (1) implement procedures to capture relevant cost and savings data on depot closures and (2) improve the process for estimating recurring costs of maintenance operations in a post-closure environment.

Agency Comments

DOD officials believe that, although budget estimates of the costs and savings associated with depot closures are not completely accurate, it would not be a cost-effective use of scarce resources to develop more accurate estimates, especially since the last base closure round has been completed. In our opinion, accumulating actual cost and savings data or revising estimates as significant changes occur should not require a substantial expenditure of additional resources because depots are already required to compare their budgeted and actual costs and to determine the cause of any significant variances.

Further, we believe developing more accurate cost and savings estimates serves two purposes. First, if one or more additional rounds of base closures are required, having more accurate information on the costs and savings associated with past closures should allow DOD, the services, and any future closure commissions to develop more reliable estimates and, in turn, make more informed decisions.⁴ Additionally, we believe the services could make more informed and cost-effective workload redistribution decisions if they had more reliable cost and savings data on past closures. For example, the privatization-in-place concept that is being implemented at AGMC is also being considered for four of the five depots that the 1995 Commission recommended for closure, even though DOD has not developed a methodology for determining (1) how much this privatization will save or cost the government and (2) if this approach is more cost-effective than closing the depots and transferring their workloads to either the remaining depots or the private sector.

⁴The Secretary of Defense has already indicated that he believes at least one more round of closures will probably be required.

Efforts to Limit Involuntary Separations Have Been Successful, but Costly

DOD has thus far been successful in limiting the number of employees that must be involuntarily separated when depots close. To a large extent, this success can be attributed to the transition programs that have been made available. These programs have incurred significant costs that will grow as more of the depots reach their actual closure date.

DOD Assistance Eases Employee Transition

With the imminent prospects of job loss resulting from depot closure, employees face a number of career decisions. Table 3.1 shows that DOD has been successful in limiting involuntary separations by providing a combination of separation incentives and job placement opportunities. As shown in the table, reductions-in-force affected only 694 workers, or about 3.4 percent of the 20,692 workers who either left government service or found other government jobs. About 54.5 percent of the workers found other jobs, while 8.5 percent took either an optional or disability retirement;¹ 14.1 percent took voluntary early retirement;² and 13 percent resigned. VSIP of up to \$25,000, depending upon length of service, is one tool DOD used. It is too early in the closure process to determine DOD's overall success in limiting involuntary separations. However, for two depots that have closed or are near final closure, the number of involuntary separations remains low. For example, at the Sacramento Army Depot, although 164 employees were separated through the reduction-in-force process, this represents only 7.3 percent of the total losses and, according to the depot commander, most of these employees chose to be separated rather than to relocate to other localities where DOD jobs for which they qualified were available. Likewise, at the Lexington-Bluegrass Army Depot, only two employees have been separated through the reduction-in-force process.

Also as shown in table 3.1, the services also assisted many displaced workers with their job searches. Of the 20,692 employees who had left their jobs as of July 31, 1995, 11,806 employees, or 54.5 percent, either found other DOD jobs or obtained jobs with other federal agencies. Most of the DOD jobs were obtained either by transferring with the workload to a nonclosing depot or through DOD's priority placement or VSIP exchange programs.

¹Federal employees who meet certain minimum age and years of service criteria are eligible for an optional retirement. In addition, employees may be eligible for disability retirement if they have at least 5 years of creditable service.

²Voluntary early retirement and some other transition benefits available to DOD workers are summarized in table 3.2 and described in greater detail in the remainder of this chapter.

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Table 3.1: Depot Attrition and Job Placement (as of July 31, 1995)

	Naval shipyards		
	Philadelphia	Mare Island	Charleston
Year of closure	1996	1996	1996
Initial staff level ^a	7,404	5,560	4,522
Depot employees who separated			
Voluntary early retirement	517	598	346
Optional/disability retirement	658	310	66 ^b
Resignations	1,005	349	175
Reductions-in-force	71	0	137
Other separations	214	77	480 ^b
Total	2,465	1,334	1,204
Depot employees who obtained another federal job (with DOD or another federal agency)			
Priority placement program	520	932	1,093
VSIP exchange program	168	139	180
Transfer with workload	0	232	409
Other	1,080	380	0 ^b
Total	1,768	1,683	1,682
Grand total	4,233	3,017	2,886
7/31/95 staff level	3,171	2,622	1,636

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Naval aviation depots			Army depots			Air Force depot	Total losses	Percent of total
Alameda	Norfolk	Pensacola	Sacramento	Tooele	Lexington	Newark		
1996	1996	1995	1994	1995	1995	1996		
2,846	3,506	2,581	2,257	2,718	1,340	1,603	34,337	
186	0	186	504	479	94	2	2,912	14.1
87	67	217	90	66	164	36	1,761	8.5
125	144	50	345	468	267	40	2,968	14.3
175	0	55	164	89	2	1	694	3.4
37	35	26	32	155	3	12	1,071	5.2
610	246	534	1,135	1,257	530	91	9,406	45.5
219	388	651	678	42	79	149	4,751	23.0
101	0	94	168	141	0	0	991	4.8
562	297	790	123	0	625	0	3,038	14.7
149	310	188	151	86	72	90	2,506	12.1
1,031	995	1,723	1,120	269	776	239	11,286	54.5
1,641	1,241	2,257	2,255	1,526	1,306	330	20,692	100.0
1,205	2,332	308	2	1,192	34	1,505	14,007	

Note: Data as reported by closing depots and shipyards. Reasons for minor variations in some balance totals not determined.

^aStaff levels in year of closure recommendation. BRAC I (1988)—Lexington Army Depot; BRAC II (1991)—Philadelphia Naval Shipyard and Sacramento Army Depot; BRAC III (1993)—Alameda, Norfolk, and Pensacola naval aviation depots; Mare Island and Charleston naval shipyards, Air Force AGMC, and Tooele Army Depot.

^bCharleston Naval Shipyard officials could not determine how many employees (1) received disability retirement or (2) obtained another federal job by some means other than the three methods listed. They, therefore, included these employees in the "other separations" category.

Depots Have Extensive Employee Outplacement Programs

DOD has used a wide range of programs and incentives to limit the number of employees that must be involuntarily separated when depots close. As part of this program, depot employees have job placement assistance, job training opportunities, VSIP, and early retirement options. The high participation rate of affected workers has contributed to the positive results of the outplacement.

Job Transition Centers Established at Closing Depots

The services have established transition centers at the closing depots to provide job search assistance, referral services, counseling, and training in such areas as resume preparation and interviewing techniques. The transition centers also provide access to a wide array of office equipment and supplies, including computer hardware and software. For example, the equipment available for employees at the Alameda center includes (1) 11 computers that contain both private and federal sector job data; (2) 1 computer programmed with Career Search (a private sector job search tool); (3) additional computers and a laser printer that can be used to prepare resumes and cover letters; (4) copy and facsimile machines; and (5) telephones.

Employees appear to be using the services offered by the transition centers. For example, at the time of our review, the Pensacola transition center was averaging 727 employee visits per month; 1,908 employees also attended various center-sponsored transition workshops. Similarly, at the Philadelphia Naval Shipyard, 3,402 employees had registered with the Career Transition Center, which provides such services as one-on-one counseling, development of job search strategies, and training assessments.

Job Placement Programs

DOD has a variety of job placement programs that give displaced DOD employees priority in hiring decisions. These programs, when combined with a policy of giving workers an opportunity to move with workloads being transferred to other depots, have been effective in securing employment for many displaced workers. The success of these programs, however, often hinges on employees' willingness to relocate, since comparable employment opportunities are often not available in the same area.

The priority placement program has been particularly effective. Under this program, DOD employees targeted for possible involuntary separation are given top placement priority for vacant DOD positions for which they are qualified. As of July 31, 1995, the program had accounted for 42.1 percent of job placements at the 10 closing depots.

In some instances, the military services have been able to satisfy both their own needs and the needs of depot employees by transferring employees with transitioning workloads. From the employees' perspective, this approach is desirable because it allows them to obtain a comparable job at comparable wages. Similarly, from the military services' perspectives,

retaining the existing workforce provides continuity in completing work at the closing depot while, at the same time, providing a base for building a knowledgeable work team at the gaining depot.

The Navy has modified its normal personnel rules to allow depots to expand this option. Normally, if employees turn down an opportunity to transfer with the workload, they would no longer be eligible to participate in the priority placement program. However, they can now continue to participate in the priority placement program, even if they had previously turned down an opportunity to transfer with the workload. As of July 31, 1995, 3,038 employees, or 14.7 percent of affected employees, had transferred with a workload.

Job Opportunities Limited in Some Locations

In some instances, it may be impossible to place employees in comparable jobs in the same geographical area. Some depots are the single largest employer in their area. In addition, because they require highly specialized skills, maintenance depots not only may be the largest, but also one of the highest paying employers in their area. As a result, opportunities in the same or similar field at comparable wages can be limited or nonexistent.

Consequently, employees' ability to find a comparable federal or private sector job frequently depends on their willingness to relocate. Throughout DOD, the percentage of priority placements that required a permanent relocation increased steadily from 37 percent in 1989 to 53 percent in 1993. According to one depot official, during the initial stages of depot closures, many employees wanted a federal job if they could get one in the immediate area. However, unless there was a big demand for their skills or career field, depot employees soon discovered they had to move.

Employees can increase their chances of getting a job in their commuting area if they are willing to change career fields, but they may find it difficult to match their previous income. For example, depot officials noted that in areas with service-based economies such as Pensacola, Florida, and Charleston, South Carolina, most jobs pay only 50 percent to 75 percent of those previously available at the depot and shipyard.

Job Training Available

Employees at closing depots are authorized to apply for federal grants to upgrade or acquire new skills under the Defense Conversion Adjustment and Defense Diversification programs. These programs, which were

created by amendments to the Job Training Partnership Act,³ assist workers dislocated by defense cutbacks and are financed with funds that DOD transfers to the Department of Labor.

Funds can be provided for formal classroom training, often at local schools and colleges, as well as on-the-job training and can be made available for up to 2 years. Some of the depot employees are currently eligible to be retrained in such areas as computer science, automobile repair, social work, and teaching. We did not assess the effectiveness of this training in assisting employees to find new occupations.

Retirement and Resignation Incentives Also Provided

In addition to job placement assistance and job training, closing depots offer incentives to encourage voluntary retirements and resignations. For example, employees at closing depots are given VSIP of up to \$25,000 if they voluntarily retire or resign, and they can take advantage of an early retirement option if they (1) have at least 20 years of service and have reached age 50 or (2) have 25 years of service, regardless of age.

Depot employees are also able to participate in the VSIP exchange program. Under this program, a VSIP payment is made to employees who resign or retire at installations that are remaining open, and the government pays employees from closing depots to move to their new duty assignments and fill the vacated positions. As of July 31, 1995, 991 depot and shipyard employees had participated in the program.

Cost of DOD Outplacement Programs

Although complete data on the cost of DOD's programs is not yet available, they are significant. Costs are being incurred to (1) pay the relocation costs of employees who transfer with the workload to another depot and who find other DOD jobs through the priority placement program or VSIP exchange program, (2) provide separation incentives to downsize the workforce, and (3) pay for the various kinds of training and transition assistance being provided. A number of programs and incentives being offered to DOD civilian employees are currently not available to other federal government employees. According to Office of Personnel Management officials, although civilian agencies could also provide many of the same benefits without additional legislative authority, the high cost of such benefits is a restraining factor—particularly for smaller agencies.

³The act authorizes the largest system of federal job training and retraining programs in the United States. The primary purpose of the act's programs is to provide educational and occupational training to workers who have lost their jobs.

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Table 3.2 lists some of the major transition benefits available to DOD workers.

Table 3.2: Major Transition Benefits Available to DOD Workers

Program/benefits	Description
Placement programs	
Priority placement	Provides mandatory placement rights for separated DOD workers to other vacant positions within DOD. When a vacancy occurs, employees have a right to mandatory placement in those positions matching their skills and grades.
Defense outplacement referral system	The automated job referral system enables employees in the public and private sector who have job vacancies to get a list of DOD workers who may match the skill needed.
VSIP exchange	Provides an incentive payment to employees who resign or retire from installations that are remaining open, and the vacant positions are then filled by employees from closing depots who are moved to their new duty assignments at government expense.
Training/transition	
Job Training Partnership Act	Eligible DOD employees can participate in career counseling, testing, retraining, placement assistance, support services, and financial counseling.
Transition assistance center	Provides a variety of services to dislocated employees, including assessment tools to provide guidance in making career changes; workshops on stress management, job search, and interviewing techniques; assistance in preparing resumes; job fairs; and administrative support.
Separation incentives	
VSIP	A lump-sum incentive equivalent to an employee's severance pay entitlement, up to a maximum of \$25,000, is paid upon voluntary resignation, early retirement, or optional retirement.
Voluntary early retirement	Employees can retire early if they have at least 20 years of service and have reached age 50 or have 25 years of service, regardless of age. Annuities are reduced by 2 percent for each year below 55.
Relocation benefits	
Reimbursement of relocation costs	DOD employees transferring to other DOD and federal government jobs are reimbursed for travel, transportation, and relocation expenses.
Homeowners' assistance	DOD offers to buy a worker's house if it cannot be sold and provides compensation for some property value losses.

Relocation Benefits

One of the depots' largest closure costs is the payment of relocation costs of employees who transfer to new jobs. For example, as of January 1995, \$20.2 million, or about 75 percent, of the Sacramento Army Depot's total

BRAC expenditures had been spent on relocation costs.⁴ Similarly, Navy officials estimated that about \$30.8 million, or 20.1 percent, of Alameda's BRAC expenditures and \$45.9 million, or 22 percent, of Navy shipyards' BRAC expenditures are for employee relocation costs.

These expenditures, estimated at one depot to be about \$46,000 per home-owning employee, reimburse the employees for a wide variety of relocation costs. These include (1) reimbursement for house hunting and other miscellaneous expenses; (2) real estate expenses; (3) transportation of household goods; (4) travel; and (5) temporary living expenses, including costs related to temporary storage.

To further ease the transition, the government also offers to purchase an employee's house at fair market value if it cannot otherwise be sold on the open market. This can be an important benefit, particularly when the local real estate market is depressed.

Employees may also qualify for the Homeowners Assistance program, which is authorized by 42 U.S.C. 3374 and designed to compensate employees for property value losses they suffer because a base closes. Under the program, an employee could be reimbursed for the difference between the home's sale price and 95 percent of the previously appraised value. For example, a DOD employee who owned a house worth \$100,000 before the base closure announcement and sold the house for \$80,000 after the announcement would receive \$15,000.

Separation Incentive Program Extended and Expanded

The VSIP program, which is similar to the buyout program that was in effect in some federal agencies until March 1995, was extended by Congress until September 1999 and expanded by DOD to include a VSIP exchange program. According to DOD officials, initial budget estimates were based on the assumption that employees would either be reimbursed for their relocation costs or given VSIP; however, under the VSIP exchange program, depots must pay both. That is, an employee at a closing depot is relocated, at government expense, to fill a vacancy that was created when another employee accepted a VSIP payment. For example, as of November 1994, the Tooele Army Depot had obligated \$3 million to pay the relocation costs of 106 Tooele employees who were participating in the VSIP exchange program and an additional \$2.7 million to make VSIP payments to 128 employees who were being replaced.

⁴Totals exclude expenditures that are not managed by the depot, such as those for environmental cleanup.

Retraining Efforts

DOD allocated \$225 million to retrain employees at closing bases. This total includes \$150 million that was allocated under the Defense Conversion Adjustment program and \$75 million that was allocated under the Defense Diversification program and had to be obligated by September 30, 1994. These funds are provided to employees at closing bases through Job Training Partnership Act grants.

Although the cost of this assistance varies with the type of training provided, it averaged more than \$5,000 per student at both the depots for which we analyzed the data. As shown in table 3.3, employees at all but one of the closing depots have received training assistance through Job Training Partnership Act grants.

Table 3.3: Job Training Partnership Act Grants for Closing Depots (as of September 30, 1994)

Dollars in millions	
Depot activity	Grant amount
Philadelphia Naval Shipyard	\$11.2
Mare Island Naval Shipyard	6.0
Charleston Naval Shipyard	15.0
Alameda Naval Aviation Depot/Naval Air Station	2.3
Norfolk Naval Aviation Depot	7.1 ^a
Pensacola Naval Aviation Depot	5.3
Sacramento Army Depot	2.3
Tooele Army Depot	1.9
Lexington Army Depot	0
Aerospace Guidance and Metrology Center	2.7
Total	\$53.8

^aStatewide grant; no specific amount earmarked for Norfolk Naval Aviation Depot.

Additional DOD Programs

The Fiscal Year 1995 National Defense Authorization Act authorized DOD civilians to participate in several new pilot programs. The initial authorization for these programs and demonstration projects was \$12.5 million. A pilot program was established whereby, if certain conditions were met, DOD would pay up to \$10,000 of the relocation and/or training costs of former DOD employees hired by nonfederal employers. A second program was designed to place separated military and terminated civilians in teaching positions as bilingual math and science teachers. Finally, demonstration projects were authorized to help military and

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terminated civilians become business owners and obtain employment by participating in the establishment and operation of ship recycling facilities.

Conclusions

Although data is limited because actions have not been completed at most closing maintenance depots, data for those further along indicate that DOD has successfully used a wide variety of incentives and programs to ease the transition of civilian workers located at closing depots. The data also shows there are significant costs associated with these programs and they are likely to increase as more of the depots near actual closure.

Agency Comments

DOD raised no questions or concerns about the information presented in this chapter.

Public-Public and Public-Private Competitions Can Be Effective Tools for Redistributing Workloads

DOD's public-public and public-private competitions of depot maintenance workloads have resulted in savings and benefits. However, despite the benefits, the Deputy Secretary of Defense discontinued these competitions in May 1994.

This chapter discusses the results and benefits of public-public competitions for the closing Sacramento Army Depot workloads and the rationale the Secretary of Defense used as the basis for canceling the public-public and public-private competition program. The results and benefits of public-private competitions are addressed in a separate report.¹ Actions being taken to redistribute other closing depots' workloads are discussed in chapter 5.

Sacramento Army Depot Public-Public Competitions

The only public-public competitions that DOD has conducted has been for the closing Sacramento Army Depot workloads. The nine Sacramento competitions were conducted because the 1991 BRAC Commission directed the Army to conduct them. The Army initially planned to simply transfer Sacramento's workload to other Army depots. However, data provided by the Air Force and the Sacramento community indicated that this might not be the most cost-effective way to redistribute the work. As a result, the Commission indicated that the redistribution of the Sacramento Army Depot's workload should be based on the results of competitions conducted between five Army depots (Tobyhanna, Anniston, Corpus Christi, Red River, and Letterkenny) and the Sacramento Air Logistics Center.

Between October 1991 and December 1993, separate competitions were conducted for nine equipment groups. In each of the competitions, the Sacramento Air Logistics Center competed against one of the five Army depots. Headquarters, U.S. Army Missile Command solicited and evaluated bids for two of the competitions, and Headquarters, U.S. Army Communications-Electronics Command (CECOM) managed the other seven.

The source selection criterion for four of the competitions was "acceptable, lowest price," while the other five were evaluated under the "best value" concept. The acceptable, lowest price criterion was used if the workloads were considered to be technically low risk or the use of innovative techniques was unlikely. Under this criterion, proposals with unacceptable transition or technical plans were eliminated during the first

¹Navy Maintenance: Assessment of the Public-Private Competition Program for Aviation Maintenance (GAO/NSIAD-96-30, Jan. 22, 1996).

Chapter 4
Public-Public and Public-Private
Competitions Can Be Effective Tools for
Redistributing Workloads

phase of the competition, and the lowest price proposal that remained was then selected. The best value criterion was used when low price was not the only important factor. For example, it was used for relatively complex workloads or if there was concern about a possible degradation of readiness during the transition from Sacramento to the new source of repair. Under this criterion, awards were based on an overall assessment of the competitors' prices, transition plans, technical plans, and proposed management structures.

As shown in table 4.1, the Sacramento Air Logistics Center won five of the competitions, and the Tobyhanna Army Depot, which participated in five of the competitions, won the other four.

Table 4.1: Results of the Sacramento Army Depot Workload Competitions

Dollars in thousands

Equipment group	Dates of competition	Source selection authority	Basis for award	Award amount
Competitions won by the Sacramento Air Logistics Center				
Fighting vehicle electronics	1/92 - 7/93	Missile Command	Best value	\$3,715
Electro-optics/night vision equipment	2/92 - 11/93	Missile Command	Best value	48,102
Gyros	8/92 - 10/93	CECOM	Low cost	1,260
Radar	4/92 - 7/93	CECOM	Best value	3,474
Test measurement diagnostic equipment	11/92 - 12/93	CECOM	Low cost	1,235
Total				\$57,786
Competitions won by the Tobyhanna Army Depot				
Airborne electronics	10/91 - 1/93	CECOM	Best value	\$4,653
Radios	6/92 - 10/93	CECOM	Low cost	4,976
Intelligence & electronic warfare	9/92 - 11/93	CECOM	Best value	7,204
Wire/data communications switches	2/93 - 12/93	CECOM	Low cost	1,358
Total				\$18,191
Total				\$75,977

Note: Total may not add due to rounding.

Sacramento Competitions Produced Substantial Price Reductions

CECOM headquarters initially estimated that the nine public-public competitions would reduce Sacramento's depot maintenance prices for fiscal years 1993 to 1998 by \$389 million. This estimate was based on (1) Sacramento's projected workload for the 429 items that were included in the nine competitions and (2) a comparison of Sacramento's inflation-adjusted prices and the winning depots' bid prices.

These price reductions,² which were partially offset by the \$16-million cost of conducting the competitions, can be attributed primarily to the fact that the competitions forced the Sacramento Army Depot's customers and bidding depots to reengineer the closing depot's workload. More specifically, competition-related price reductions were achieved by (1) eliminating unnecessary repairs, (2) reducing labor standards,³ and (3) developing more cost-effective repair procedures.

Table 4.2 shows the initial estimates of price reductions resulting from the Sacramento Army Depot competitions.

²Actual savings cannot be determined until the work is completed, and even then it may be difficult to quantify. Factors that affect actual savings include not only the price reductions achieved but also (1) the ability of depots to do the work for the amount they bid and (2) the amount of work that materializes. Actual savings may be difficult to quantify because the competitions are only one of many factors that affect the cost of depot maintenance work.

³A labor standard is the time it should take a trained worker or group of workers, working at a normal pace and under specific conditions, to produce a described unit of acceptable work. These standards can be either engineered (based on an engineering method such as a time and motion study) or nonengineered (derived by some other means such as technical judgment).

Table 4.2: Initial Estimates of Price Reductions That Resulted From Sacramento's Workload Competitions

Dollars in thousands				
Equipment group	Sacramento's costs	Winning bid	Price reduction	Percent reduction
Sacramento Air Logistics Center				
Fighting vehicle electronics	\$11,558	\$3,715	\$7,843	67.9
Electro-optics/night vision equipment	174,024	48,102	125,922	72.4
Gyros	18,664	1,260	17,404	93.3
Radar	34,008	3,474	30,534	89.8
Test measurement diagnostic equipment	22,278	1,235	21,043	94.5
Tobyhanna Army Depot				
Airborne electronics	37,655	4,653	33,002	87.6
Radio	55,425	4,976	50,449	91.0
Intelligence & electronic warfare	85,074	7,204	77,870	91.5
Wire/data communications switches	26,513	1,358	25,155	94.9
Total	\$465,198	\$75,977	\$389,222	83.7

Note: Total may not add due to rounding.

Unnecessary Repairs Eliminated

The substantial price reductions that CECOM achieved in its seven workload competitions can be attributed, in part, to eliminating unnecessary repairs. For most of the work Sacramento did before the competitions, the customers' work requests indicated that the depot was to return items to a serviceable condition by inspecting them and then repairing only what was broken. However, in some instances, the depot did not comply with the requests but rather returned items to a "like-new" condition by completely overhauling them. CECOM officials considered this level of repair to be unnecessary and, as a result, emphasized that the bidding depots were to submit price estimates for a level of repair that would return items to a serviceable rather than a like-new condition.

It is important to note that the problem of performing unnecessary repairs is not unique to Sacramento. For example, in 1992, we reported⁴ that the U.S. Army Tank-Automotive Command could have saved as much as \$1.1 million in fiscal year 1992 by eliminating the requirement for the Red River Army Depot to overhaul all 6V53 engines (used in M113 personnel

⁴Army Maintenance: Savings Possible by Stopping Unnecessary Repairs (GAO/NSIAD-92-176, May 5, 1992).

carriers) and allowing the depot to (1) establish a pre-shop analysis program and (2) perform only those repairs necessary to return the engines to service. Similarly, in the same report, we indicated that the Tooele Army Depot was completely overhauling certain items that required only inspection and repair and that it was doing so without the knowledge of its higher headquarters or the approval of its customers.

A comparison of two bids submitted by the Sacramento Air Logistics Center for the first competition illustrates the impact that eliminating unnecessary repairs can have. During their review of the Center's initial bid, CECOM officials discovered that the Sacramento Air Logistics Center had assumed in its price estimates that items would be completely overhauled and returned to a like-new condition. As a result, they asked the Center to submit a revised bid for a level-of-effort that would return items to a serviceable condition. Due primarily to an audit of the Center's initial proposal by the Defense Contract Audit Agency, the direct labor rates⁵ used in the revised bid were about 15 percent higher than those in the initial bid. However, the impact of this increase was more than offset by the change in repair philosophy. Overall, the Center's bid was reduced by nearly 60 percent.

Labor Standards Reduced

Another reason for the substantial price reductions is the fact that bidding depots reduced Sacramento's labor standards. For example, the Tobyhanna Army Depot reduced one labor standard from 16 hours to less than 1 hour when one of its industrial engineering technicians determined that (1) the item in question was a sealed unit and (2) the only requirement was to clean and inspect the item. This, in turn, allowed Tobyhanna to reduce its bid on these tasks by 94 percent.

The two competitions conducted by the Missile Command provided a good indication of the overall impact of these reductions in labor standards. Due largely to lower labor standards, the two competitions reduced prices by 67.9 percent and 72.4 percent, respectively.⁶

The existence of inflated labor standards is a long-standing and well-documented problem that was not unique to Sacramento. For

⁵Direct labor rates represent the average cost of a direct labor hour. They include wages and benefits, overhead costs, and miscellaneous adjustments.

⁶As part of its effort to ensure that these large reductions were realistic, Missile Command officials asked Sacramento technicians to scrub their labor standards for 15 items. In most cases, the standards were reduced by at least 50 percent.

example, in January 1991, the DOD Inspector General reported⁷ that the labor standards for 22 maintenance and repair operations, involving 6 types of Army, Navy, and Air Force aircraft, could be reduced by an average of 34 percent. Inflated labor standards have persisted, in part, because depots lacked an incentive to reduce their labor standards. In fact, there is a disincentive because (1) labor efficiency, which compares actual labor time with labor standards, is one of the factors maintenance employees and supervisors are evaluated on and (2) reducing inflated labor standards will result in a corresponding reduction in reported labor efficiency. In addition, since sales prices are based partly on labor standards, a reduction in labor standards will result in less sales revenue and this, in turn, will make it more difficult for maintenance activities to earn a profit.

More Cost-Effective Repair Procedures Developed

In some instances, winning bidders for Sacramento's workload were able to reduce prices by developing more cost-effective repair procedures. For example, the Sacramento Air Logistics Center substantially reduced the cost of repairing the AN/TPQ-37 radar by developing a repair process for the 359 "subarray modules" that are located in the radar's antenna and that are considered nonrepairable by the Army. About 60 of these \$4,400-subarray modules must be either replaced or repaired each time a radar antenna is overhauled. With a projected workload of three antennas a year and an estimated repair cost of \$500 for each subarray module, the decision to repair rather than replace the modules is projected to save \$3.5 million over 5 years.

Similarly, the Tobyhanna Army Depot was able to substantially reduce the reported cost of repairing the AN/GRC-106 and AN/GRC-106A radios by developing a method that more efficiently diagnosed faults in component parts and accomplished related repairs. More specifically, the depot designed and developed new test equipment, replaced labor-intensive testing methods, and eliminated redundant tasks. With a combined authorized and projected workload of 1,077 radios over 5 years and an estimated average savings of \$6,035 per radio, these actions are expected to save \$6.5 million over 5 years.

⁷Management of Labor Standards for Airframes at Aeronautical Depots (Report No. 91-039, Jan. 1991).

Strengthened Buyer-Seller Relationship Has Generated Additional Price Reductions

Another important benefit of the Sacramento Army Depot competitions is that they strengthened the buyer-seller relationship that exists between maintenance depots and their customers. For example, since the competitions, the CECOM Depot Maintenance Competition Office has saved the Command more than \$12 million by providing the same type of independent oversight over the winning depots that is routinely exercised over private industry. More specifically, the Competition Office has cut costs by (1) ensuring that prices were reduced when the scope of work declined; (2) denying price increases when depots improperly characterized work as being outside the scope of the memorandum of agreement;⁸ (3) using lessons learned during the competitions to negotiate lower prices for repairing similar, noncompeted items; and (4) identifying more cost-effective repair methods, such as using items that were available in property disposal offices rather than requisitioning new items from the supply system.

Prior to the competitions, CECOM rarely questioned the prices it paid public depots for maintenance work because it generally lacked an incentive and basis to do so. It lacked an incentive because DOD's budget process usually ensured that the Command received additional funding when the depots increased their prices. It generally had no basis for questioning them because it usually lacked either the data or the time and resources required to evaluate the prices.

However, the competitions gave CECOM an incentive to question the depots' prices. Command officials were concerned about the possibility that depots would use "business as usual" practices to negate the competition-generated price reductions that had been achieved. The competitions also allowed the Command to question the depots' prices because, as discussed in the next section, the price reductions provided a benchmark for evaluating the depots' repair prices for similar, information items⁹ as well as noncompeted workloads.

⁸Awards were made under a memorandum of agreement rather than a contract because the government cannot legally contract with itself.

⁹To reduce the cost of conducting the competitions, depots were only required to submit bids for about 10 percent of the national stock numbers that were included in the nine equipment groups. Prices for the remaining 90 percent of the items, which are referred to as "information" items, were to be negotiated if and when repair requirements materialized for them.

Price Reductions Enhanced Competitions' Credibility

The Sacramento Air Logistics Center, Tobyhanna Army Depot, and the CECOM Depot Maintenance Competition Office are further strengthening the competition process by applying lessons learned during the competitions to information items. Although the memorandums of agreement did not specifically state that winning depots were expected to use their competition labor rates to establish prices for information items, this fact was well known to the competitors, and Sacramento and Tobyhanna have now both agreed to do so. In addition, the Competition Office has developed a methodology that uses the price reductions achieved on bid items as a benchmark for evaluating the depots' proposed prices for information items.

The potential magnitude of these savings was demonstrated during the negotiations for repairing the communication-electrical maintenance van, AN/ASM-189A. The initial repair estimate, which is used by Army direct and general support maintenance units to repair communications-electronics items in the field, was \$149,000. However, the Depot Maintenance Competition Office's analysis indicated that this was too much for the work requested and asked Tobyhanna to provide supporting documentation for the estimate. It then determined that the initial price estimate was based on (1) a more extensive level of repair than the Command wanted, (2) inflated labor standards, and (3) direct labor rates that were much higher than the depot's competition rates. This, in turn, allowed the Competition Office to renegotiate a repair price of \$47,322, or a reduction of over \$100,000 per van. Since the depot is expected to have a projected workload of 87 vans over the next 4 years, these negotiations are expected to reduce the Command's depot maintenance repair costs for fiscal years 1995 to 1998 by \$8.9 million.

DOD's Rationale for Canceling Competition Program Is Questionable

DOD discontinued its public-public competition program in May 1994 because DOD officials believed that (1) interservicing¹⁰ could provide similar efficiencies without the cost of conducting competitions and (2) DOD databases and financial management systems do not provide reliable information on the actual cost of specific workloads. At the same time, for similar reasons, DOD discontinued the public-private competition program. Although these actions are consistent with the conclusions and recommendations of an April 1994 Defense Science Board study¹¹ and a

¹⁰Interservicing occurs when maintenance is performed by the organic capability of one military service in support of another military service.

¹¹Report of the Defense Science Board Task Force on Depot Maintenance Management (Apr. 1994).

July 1994 interim report by the accounting firm of Coopers and Lybrand,¹² our analysis indicates that the rationale is questionable. Specifically:

- Interservicing is accomplished for 8 percent of the workload that is considered suitable,¹³ and it is unlikely that this percentage will increase significantly in the future.
- Although DOD has long-standing and well-documented problems with its databases and financial management systems, action can be taken to circumvent these problems and ensure fair competitions.

Interservicing Is Not Likely to Significantly Increase

GAO and others have reported on redundancies and underutilization in DOD's depot maintenance operations and have recommended increased integration of the services' depot maintenance operations. However, DOD's recent BRAC experience indicates that interservicing is unlikely to increase significantly. The BRAC Commission's July 1993 report to the President expressed concern about the limited amount of interservicing arrangements that had been implemented during the preceding 20 years and about DOD's failure to even consider interservicing alternatives during the 1993 BRAC process. The report encouraged DOD to ensure that interservicing alternatives were adequately considered during the 1995 round of base closures.

Prior to the 1995 BRAC round, the Deputy Secretary of Defense directed that DOD's input to the 1995 BRAC process be based on a cross-service analysis. In response, a joint cross-service group did (1) analyze the capacity of 24 facilities to maintain and repair 57 equipment commodities, such as aircraft engines and landing gear; (2) recommend consolidating 13 workloads at single sites and other workloads at two or more locations; and (3) propose several additional depot closures. However, the military services adopted few of these recommendations and very little interservicing resulted.

Similarly, on May 4, 1994, the Deputy Secretary of Defense noted that redundant aviation repair capability existed and directed the Secretaries of the Navy and the Air Force to develop a coordinated plan for consolidating depot maintenance workload for fixed-wing aviation across service boundaries. He also suggested that the services strongly consider jointly managing and operating a single depot. However, these initiatives never

¹²Coopers & Lybrand, *Public versus Private Competition, Preliminary Case Studies* (July 1994).

¹³Some workloads, such as the Air Force's large cargo and strategic bomber aircraft and the Navy's ships, are not considered suitable for interservicing.

came about, and each of the services developed its 1995 BRAC input independent of the other services.

Although DOD's March 1995 report to Congress outlined a new joint interservicing methodology, it was not scheduled to be implemented until after the 1995 BRAC process was completed. Furthermore, there is little support to suggest that this process will overcome the traditional impediments to increased interservicing. In fact, the 1993 BRAC Commission concluded that service parochialism will prevent DOD from developing streamlined and integrated operations until all maintenance depots are consolidated under a single joint service organization.

We reported the same findings in our 1993 depot maintenance testimony.¹⁴

We noted that the services have had many opportunities to work cooperatively over the past 35 years, but have failed to do so. Thus, some form of centralized management external to the military services appears to be needed. We also noted that strong, effective leadership would be particularly critical as DOD makes decisions about core requirements and workload transfers related to the 1993 BRAC closures. This did not occur. As will be discussed in chapter 5, workloads were generally transferred to other depots owned by the same service or to the private sector.

Actions Taken and Needed to Improve Competitions and Ensure Their Fairness

Although we share DOD officials' concern about the reliability of depot maintenance data and the adequacy of management information systems, we do not believe these long-standing and well-documented problems should preclude DOD from conducting future competitions. DOD had already taken numerous actions to enhance the credibility and fairness of the competitions before it canceled its competition program in May 1994. In addition, other actions can be taken to further improve the competitions and ensure their fairness.

Many of the actions DOD has taken to improve public-public competitions were summarized in our September 30, 1993, correspondence¹⁵ to the Chairman, Subcommittee on Defense, Senate Committee on Appropriations. These actions include (1) developing a cost comparability handbook that, among other things, identifies the adjustments that should be made to public depots' bids as a result of differences in the services' accounting systems and (2) directing the Defense Contract Audit Agency

¹⁴Depot Maintenance: Issues in Management and Restructuring to Support a Downsized Military (GAO/T-NSIAD-93-13, May 6, 1993).

¹⁵Depot Maintenance (GAO/NSIAD-93-292BR, Sept. 30, 1993).

to certify that successful bids include comparable estimates of all direct and indirect costs.

The correspondence also identified additional actions that could be taken to further improve the competitions. These include (1) ensuring that Defense Contract Audit Agency auditors receive the technical support they need to properly evaluate the depots' bids and (2) requiring the Agency to conduct incurred cost audits to verify that the depots could perform the work for the bid amount. In addition to these DOD-wide actions, some depots have independently improved the quality and accuracy of their maintenance databases, systems, and processes, including cost accounting. For example, one of the basic problems that we and others have pointed out with the Air Force's accounting system is that actual costs are accumulated at the maintenance shop level rather than at the job level. Because of this condition, a shop that performs both competed and noncompeted work could offset losses on its competed workloads with profits from its noncompeted workloads. However, at several depots, this deficiency was significantly mitigated by creating shops that worked only on competed workloads.

The Ogden Air Logistics Center has made a particularly noteworthy effort to overcome the deficiencies in its management information systems. At our recommendation, the Center Commander implemented a broad-based financial management improvement program that included developing and implementing the Depot Maintenance Business Area Policies and Procedures Handbook. This handbook addresses financial management policies, procedures, and responsibilities; internal controls; and other key areas. Defense Contract Audit Agency officials reviewed drafts of the handbook and worked with Center officials to refine the policies and procedures. So far, the new policies and procedures have been implemented for competition programs and the entire aircraft directorate.

According to Defense Contract Audit Agency officials who recently audited the Center's aircraft directorate, the current and planned controls address previously identified internal control weaknesses. They noted that although Ogden's accounting systems may be different than the private sector's, the same types of internal controls required of defense contractors are being implemented, including certification of employee time charges and improved tracking of material costs.

Finally, recognizing the need for improved internal controls throughout DOD's depot system, the Under Secretary of Defense (Logistics) established

an integrated process team to help improve DOD's financial management and internal controls systems. In addition, Coopers and Lybrand will be working with a depot from each service to implement the required improvements.

Competition Not Appropriate for All Workloads

Managers at the Sacramento Air Logistics Center and Tobyhanna Army Depot—the two depots that won all nine of the Sacramento Army Depot competitions—believe public-public competitions can be used effectively to redistribute at least part of closing depots' workloads. However, they cited several reasons why competition should not be used for all workloads. For example, because the competition process can be costly, labor-intensive, and time-consuming, they believe competition is generally not a cost-effective tool for redistributing either relatively small workloads or workloads that may not materialize. Sacramento managers also indicated that problems related to the services' incompatible data systems limit the benefits of conducting interservice competitions for relatively small workloads.

Center managers also had a more general concern about the use of public-public competitions for redistributing closing depots workloads. Specifically, the lengthy competition process, combined with the fact that employees from the closing depots were generally not allowed to transfer with the workload, led to low morale at the closing depots and, in turn, to several undesirable side effects. For example, they found technical data in the trash and inoperative test equipment that appeared to have been sabotaged. However, these managers acknowledged that problems such as these can be minimized and the learning curve virtually eliminated if workers from the closing depot are allowed to transfer to the depot that wins the competition.

Conclusions

The nine competitions conducted for the Sacramento Army Depot's workload demonstrated that public-public competitions can be used effectively to redistribute closing depots' work, primarily because they give depots and their customers an incentive to reengineer the work. However, despite the benefits of public-public competitions, the Deputy Secretary of Defense canceled the public-public competition program as well as the public-private competition program. DOD officials (1) believe DOD can use interservicing to gain similar efficiencies without the cost of conducting competitions and (2) were concerned about the adequacy of DOD's databases and financial management systems.

For some DOD workloads, particularly relatively large and stable core workloads that are moved because of depot closures, public-public competitions are a cost-effective method of allocating the workload. The savings often occur because competitions force depots to reengineer the workloads, thereby improving their processes and procedures. Because little of the services' total workload is likely to be competed, increased emphasis and oversight is needed to ensure reengineering is also applied to noncompeted workloads, starting with the largest and most stable workloads.

Because DOD has made limited progress over the last 20 years in interservicing workloads, it appears unlikely that this cost-reduction tool will be used on a widespread basis. We agree that DOD's long-standing and well-documented problems with its databases and financial management systems make it more difficult to conduct public-public competitions, and we believe that correcting these problems should be given high priority. However, in the interim, because of the significant savings that have resulted from competitions, it appears public-public and public-private competition should continue to be used to create more efficient and effective depot operations.

Although some initiatives have been undertaken to improve the depots' accountability of costs, this effort has not had sufficient priority. Further, when DOD canceled the competition program, it removed the incentive for implementing improvement initiatives.

Recommendation

We recommend that the Secretary of Defense implement a high-priority program to resolve internal control deficiencies in depot management systems.

Agency Comments

DOD officials concurred with our recommendation to assign a high priority to implementing an improvement program to resolve internal control deficiencies in depot management systems. They have identified improvement initiatives and established an integrated product team composed of several representatives from each of the services to implement the initiatives.

Workload Redistribution Decisions Did Not Adequately Consider Some Alternatives

Despite widespread agreement that DOD can and should reduce its depot maintenance costs by transferring closing depots' workloads to more cost-effective sources of repair, the military services are not adequately considering opportunities to transfer work to other services' depots. Further, the Air Force is privatizing most of AGMC's depot maintenance workload. The existing statute requires that before privatizing depot maintenance workload valued at \$3 million or more, competitive procedures be used that include public entities. DOD terminated its public-private competition program in May 1994. DOD officials differed on the applicability of the statute to the AGMC privatization.

Interservicing Is Encouraged, but Frequently Not Considered

Congress has long been a strong proponent of using interservicing to streamline and reduce the cost of depot maintenance operations. In addition, DOD's March 1995 report¹ to the House Committee on Appropriations indicated that the greatest potential for achieving interservicing savings comes from reallocating closing depots' workloads. However, the military services have not generally considered interservicing alternatives for their closing depots' workloads unless (1) the BRAC Commission specifically directed them to do so or (2) another service's depot was already performing the same work.

Use of Interservicing Is Encouraged but Not Required

According to 10 U.S.C. 2469, the Secretary of Defense should use merit-based selection procedures that consider all of DOD's depot-level activities when transferring workloads valued at \$3 million or more from one depot to another. However, the Conference Report on this provision indicates that the use of merit-based selection procedures should not affect the orderly flow of work resulting from base closure decisions. Consequently, DOD does not require the use of merit-based procedures unless a BRAC Commission specifically directs the services to do so. Instead, it allows the services to determine if using merit-based selection procedures impedes the orderly flow of work from their closing depots.

Military Services Retain Control Over Most of Their Closing Depots' Work

Ten maintenance depots were recommended for closure or realignment during the 1988, 1991, and 1993 BRAC rounds.² As discussed in chapter 4, the commission-mandated competitions that were conducted for the

¹Report on Depot Maintenance Interservicing, Prepared for the House Committee on Appropriations (Mar. 1995).

²In addition, the Army's Pueblo Depot Activity's mission to repair the Pershing missile ended with the deactivation of the missile in fiscal year 1992.

Sacramento Army Depot's workload demonstrated that reengineering a closing depot's workload could produce substantial savings. However, just moving maintenance workloads from one depot to another has generally not resulted in the work being "reengineered." Instead, a vast majority of work is merely being transferred as quickly as possible to the parent services' remaining depots.

Implementation of 1988
Recommendations

After the 1988 BRAC Commission recommended realigning the Lexington-Bluegrass Army Depot's maintenance workload, the Army transferred (1) the depot's communications-security and communications-electronics maintenance missions to the Tobyhanna Army Depot, (2) its supply stocks and the Quality System Engineering Center to the Letterkenny Army Depot, and (3) the Central Test Measurement and Diagnostic Equipment Activity and the Materiel Readiness Support Activity to its Redstone Arsenal. Additionally, some depot maintenance workload remained at a contractor facility on the depot, and the Ionization Radiation Dosimetry Center moved to the Redstone Arsenal in September 1995.

Implementation of 1991
Recommendations

The Sacramento Army Depot and the Philadelphia Naval Shipyard were recommended for closure during the 1991 round of base realignments and closures.

As discussed in chapter 4, based on the BRAC Commission's recommendation, the Army redistributed the Sacramento Army Depot's workload based on the results of nine public-public competitions conducted between the Sacramento Air Logistics Center and various Army depots. The depot's maintenance mission ended in February 1994.

The Philadelphia Naval Shipyard's primary workload, the Service-Life Extension program, is being phased out and, as a result, there will be no major workload realignments associated with closing the shipyard. Certain elements of the shipyard, such as the drydocks, were to be preserved³ and others, such as the propeller facility and the Naval Inactive Ships Maintenance Facility, were to remain active. The shipyard's projected operational closure date is September 1996.

Implementation of 1993
Recommendations

The 1993 BRAC Commission recommended closing three naval aviation depots (Pensacola, Norfolk, and Alameda); two naval shipyards

³The Secretary of Defense's February 28, 1995, report to the Chairman of the BRAC Commission indicated that it was no longer necessary to preserve these elements.

(Charleston and Mare Island); and AGMC. It also recommended realigning the Tooele Army Depot.

As discussed in more detail in the next section, the Navy plans to transfer most of its closing naval aviation depots' workloads to the remaining depots. The major exceptions are (1) work on H-1 and H-60 helicopters is being transferred to the Corpus Christi Army Depot, which is already performing nearly identical work for the Army; (2) work on the T-56 and 501K engines is being transferred to the San Antonio Air Logistics Center, which is already performing nearly identical work for the Air Force; and (3) work on the H-3 helicopter was competed in the private sector. Altogether, these five workloads account for about 10 percent of the closing naval aviation depots' total workload. In some cases, the Navy awarded bridging contracts to private contractors while workloads are being transferred from one military depot to another.

The Charleston Naval Shipyard's major shipboard work has been redistributed to the remaining shipyards, and its only major⁴ nonshipboard operation, the Modular Maintenance Facility, is being transferred to the Naval Command, Control, and Ocean Surveillance Center, In-Service Engineering, East. The shipyard's projected operational closure date is April 1996.

The Mare Island Naval Shipyard's shipboard work has also been redistributed to the remaining shipyards, and its only major nonshipboard operation, Ocean Engineering, is being transferred to the Puget Sound Naval Shipyard. The shipyard's projected operational closure date is April 1996.

The Air Force awarded two contracts to private contractors who will perform much of AGMC's current operations. Under this privatization-in-place concept, the Air Force will retain ownership over the depot plant equipment. The base and facilities will be conveyed to a local community entity, such as a port authority, and it will (1) manage and maintain the property, (2) lease space to the contractor, and (3) lease space to the government for certain activities. Based on its determination that the program management function of AGMC's metrology and calibration function is an "inherently governmental" function, the Air Force will retain 115 government civilians. About 10 percent of AGMC's workload was interserviced from the Army and the Navy. These services are transferring this workload to other depots or the private sector. On

⁴The Navy defines a major workload as one that requires at least 200 people.

December 15, 1995, the Air Force awarded a cost-reimbursable contract to Rockwell International (Avionics and Missile Systems Division) for the remaining navigation/guidance system repair work covering a transition period plus four 1-year options. The contractor operation will be fully implemented by the first quarter of fiscal year 1997.

The Army has not yet determined the ultimate disposition of most of the Tooele Army Depot's workload. The Army initially planned to transfer most of this work to the Red River Army Depot. However, the 1995 BRAC Commission recommended that most of Red River's depot maintenance workload be transferred to either other depots or the private sector. The Army is now considering whether to privatize-in-place much of this workload at Red River. Some workloads have already been contracted out to private firms.

Finally, although most of the work from Tooele and closing naval aviation depots is first being transferred to one of the parent services' remaining depots, service managers noted that much of this workload could ultimately go to the private sector. They acknowledged that this two-step process is not as efficient as transferring the work directly to the private sector, but they believe it is necessary. They said that because contracting out work to the private sector—developing statements of work, soliciting and evaluating bids, and awarding the contracts—is time-consuming and labor-intensive, the closure of the depots could be significantly delayed if they were not allowed to use this two-step process.

Navy Did Not Use Competition or Adequately Consider Interservicing Alternatives

The Navy missed an opportunity to save money when it decided to transfer most of the work from its three closing naval aviation depots to the three that are remaining open. First, Navy officials decided not to conduct any public-public competitions that would have delayed closing the depots. Further, the Navy did not consider interservicing for most of its closing depots' workloads.

The Navy's reason for not conducting public-public competitions appears valid for the Pensacola depot, but not for the other two. Although the BRAC law allows DOD 6 years to completely close bases, Navy officials believe they could save more money by closing the Pensacola depot in 2 years and the Alameda and Norfolk depots in 3 years. They believe these accelerated closure schedules would not provide sufficient time to conduct public-public competitions.

Our analysis indicates that accelerating the closure of the Pensacola depot was necessary because the depot had to vacate its facilities before two other BRAC actions—the movement of the Navy’s Bureau of Personnel to the Memphis Training Command’s facility and the movement of the Memphis Training Command to the Pensacola depot’s facilities—could proceed. However, the Navy would have had sufficient time to compete at least a portion of the Alameda and Norfolk depots’ workload. For example, as shown in table 4.1, most of the competitions conducted for the Sacramento Army Depot’s workload took less than 2 years to complete. In addition, the Navy completed a private-private competition for the Pensacola depot’s H-3 helicopter workload in less than a year. Although the Navy could not have feasibly conducted public-public competitions for all of the closing depots’ workloads, it could have conducted at least a few competitions during the 3-year closure period.

Navy Did Not Consider Interservicing

The Navy did not consider Air Force depots when planning to redistribute most of its workloads because its industrial policy calls for private contractors to perform noncore workloads and for Navy depots to perform core workloads. This policy reflects all the services’ desire to control the maintenance for their own systems—so they will have the technical competence and resources to respond to emergency requirements. The services have generally not been willing to assume that another military service would provide responsive support when needed, and they have justified retaining their own depots by pointing out that title 10 gives the service secretaries the responsibility for providing logistics support.

This “service core” concept was endorsed by the Defense Science Board Depot Maintenance Task Force in its April 1994 report to Congress, but it is inconsistent with the “DOD core” concept that is DOD’s stated policy. In a May 1994 memorandum that implemented many Task Force recommendations, the Deputy Secretary of Defense indicated that DOD’s policy is to identify core requirements on an agencywide basis rather than at the service level.

However, it is not clear that DOD actually approaches the core concept from an agencywide perspective. For example, we recently reported that even though an Air Force depot won a competition for repairing F-18 aircraft, the Navy—with Office of the Secretary of Defense concurrence—was allowed to retain F-18 core capability in a Navy depot

while the Air Force depot received only the minimum number of aircraft.⁵ According to DOD officials, although they plan to identify core requirements on an agencywide basis, each service will be allowed to retain core capability in its own depots for service-unique systems—even if another service's depot has similar systems and equipment.

The extent to which DOD intends to consolidate commodities across service lines is also unclear. Although the Defense Depot Maintenance Council identified some DOD centers of technical excellence, this has not resulted in significant movement toward additional consolidations. For example, the Ogden Air Logistics Center has been designated the DOD center of technical excellence for aircraft landing gear, but the Navy continues to overhaul its landing gear in Navy depots.

Public-Private Competitions Not Used in Allocating AGMC Depot Maintenance Workloads

The Air Force is privatizing-in-place the AGMC workload. Title 10 U.S.C. 2469 requires that the performance of depot-level maintenance workloads valued at \$3 million or more should not be changed to performance by a contractor unless the change is made using competitive procedures that include public entities. However, in May 1994, DOD discontinued its public-private competition program, citing fairness concerns in comparing public and private costs. Consequently, DOD is not allowing its depots to compete for closing depot workloads until the Defense Finance and Accounting Service certifies that adequate procedures and accounting systems are in place to identify and track all pertinent costs.

Some DOD officials stated that the DOD and BRAC Commission recommendation recognized privatization as an option for AGMC's workload; therefore, they did not believe a competition was required. Other officials stated that only a direct recommendation incorporated into the BRAC report would permit privatization without competition. Still other DOD officials said that the statute's application is unclear and should be clarified.

Our 1994 report on the AGMC privatization noted that privatization-in-place could increase rather than decrease the costs of accomplishing the AGMC workload.⁶ A later cost estimate projected that over a 5-year period, the privatization option may cost \$600 million more than costs that would

⁵Depot Maintenance: The Navy's Decision to Stop F/A-18 Repairs at Ogden Air Logistics Center (GAO/NSIAD-96-31, Dec. 15, 1995).

⁶Aerospace Guidance and Metrology Center: Cost Growth and Other Factors Affect Closure and Privatization (GAO/NSIAD-95-60, Dec. 9, 1994).

have been incurred had the depot continued operations as a military depot. This projection included estimates for contract costs and nonrecurring costs as well as various recurring costs to the government as a result of privatization-in-place—such as costs for government-furnished material; government civilian personnel who will continue to function at AGMC for program management of the metrology and calibration mission; lease and investment; research, development, test and evaluation; and contract administration and management. After awarding the AGMC contract, DOD officials stated that given the decision to close AGMC, they believe the privatization-in-place will be cost-effective. However, officials acknowledged that it will be several years before costs under a cost-reimbursable contract will be known. Further, in addition to the contract costs, other costs incurred because of AGMC's closure and privatization would have to be considered in a cost comparison between privatization and operation as a military depot.

Conclusions

The military services can substantially increase the savings from closing unneeded depots by transferring the work to the most cost-effective source of repair. However, because the services' want to retain control over their own depot maintenance operations and DOD has been unable to force them to rely on one another, the services are not taking advantage of ways to cut costs and are expeditiously transferring closing depots' work to one of their remaining depots.

DOD is not using public-public or public-private competitions in public depots to compete for workloads being transferred from closing depots.

Recommendations

We recommend that the Secretary of Defense

- maximize the use of competitive procedures and merit-based selection criteria by including military depots in determining the most cost-effective source of repair for workloads that have not yet been transferred from closing depots and
- require the services to reengineer workloads that are redistributed from closing depots on any basis other than competition, starting with the largest and most stable workloads.

Agency Comments

Our draft report included a recommendation that DOD reinstitute public-public and public-private competitions. However, according to DOD officials, a November 1994 Office of the Secretary of Defense memorandum reinstituted public-private competitions under certain conditions.

Despite this memorandum, we did not find any evidence that the public-private competition program has been reinstituted. DOD has not conducted a public-private competition since terminating the program in 1994, and DOD activities have dismantled their competition offices. Further, DOD's March 1995 report to Congress on the public-private competition program stated that it cannot reinstitute these competitions until adequate cost accounting and data systems are in place. Yet no criteria has been established for determining if depots meet the required standards. Finally, the November 1994 memorandum addressed depot maintenance workloads of other federal agencies, such as Federal Aviation Administration ground control equipment and Coast Guard boats, rather than DOD maintenance workloads.

We continue to support the need for the competition program. Our January 1996 report on the Navy aviation public-private competition program recommended that the Secretary of Defense (1) reinstitute public-private competition for depot maintenance workloads as quickly as possible; (2) develop and issue guidelines regarding the conditions, framework, policies, procedures, and milestones for reinstating competitions; and (3) require the Defense Contract Audit Agency to review internal controls and accounting policies and procedures of DOD depots to ensure they are adequate for identifying, allocating, and tracking costs of depot maintenance programs and to ensure that proper costs are identified and considered as part of the bids by DOD depots.⁷ Although our draft report sent to DOD for comment also contained a specific recommendation that DOD reinstitute its public-private competition program, to avoid repetition, we have deleted the recommendation from our final report. However, we are continuing to recommend in this report that DOD maximize the use of competitive procedures that include military depots to determine the most cost-effective source of repair for handling workloads from closing depots.

DOD officials generally agreed that reengineering workloads could be beneficial and noted DOD requires that workload standards be reviewed.

⁷Navy Maintenance: Assessment of the Public-Private Competition Program for Aviation Maintenance (GAO/NSIAD-96-30, Jan. 22, 1996).

Chapter 5
Workload Redistribution Decisions Did Not
Adequately Consider Some Alternatives

However, recent personnel reductions have eliminated many of the government workers who would have conducted these analyses. We continue to believe that reengineering efforts would increase productivity and cost reductions in the depot maintenance program and that DOD should prioritize its reengineering efforts where savings opportunities are the greatest.

History of the Services' Depot Systems

The services' maintenance depots have primary responsibility for maintaining, overhauling, and repairing most major systems and system components, including aircraft, helicopters, ships, tanks, artillery, support vehicles, missiles, and ammunition. The maintenance depots are a controlled source of technical capability for repairing and manufacturing mission-essential equipment and components that support peacetime operations or a surge capability in the event of total mobilization or some other national defense contingency. The depots also provide engineering services for the production and development of hardware design changes. Furthermore, they furnish technical teams to provide field maintenance of equipment as needed in emergencies.

Army Depots

From the Revolution until World War II, the Army's equipment maintenance needs were mostly contracted out. During the 19th century, in-house maintenance work, consisting mostly of rifle and other gun repair, as well as carriage repair, was done in the Army's arsenals, which also manufactured guns. The number of arsenals tended to rise and fall according to the various wars and other military actions that occurred in the 19th and early 20th centuries.

About the time of World War I, the Army began to acquire larger equipment such as trucks and tanks, which typically require more maintenance than rifles, guns, and carriages. Still, most maintenance work between World Wars I and II continued to be contracted out. Finally, during and after World War II, large-scale, in-house equipment maintenance began in earnest when the Army acquired massive quantities of new, modern equipment.

By the 1970s, the Army's depot maintenance work was centralized at a limited number of depots compared to previous years. In 1976, 10 depots performed maintenance work in the continental United States and 2 in Europe. Between 1983 and 1985, Army depot maintenance personnel strengths increased to over 20,000, their highest level ever. At that time, the organic program represented approximately 67 percent of the total Army direct depot maintenance program funding. During the mid-1980s, the Army lost some of its organic depot maintenance workload, staffing, and capacity. By 1988, only six depots were still performing maintenance work in the United States and only one in Europe. Sierra, Seneca, Sacramento, and New Cumberland depots had stopped performing maintenance work in the United States and in Europe, the Mainz Depot

was closed. However, as its in-house maintenance capability declined, the Army increased its reliance on commercial sources, reversing a long trend.

Although the Department of Defense's (DOD) input to the 1995 Base Closure and Realignment (BRAC) process recommended closing the Red River Army Depot and transferring the light combat vehicle maintenance mission to the Anniston Army Depot, the BRAC Commission disagreed. The Commission found that although Anniston has the capacity to accept ground combat vehicle depot maintenance workload from Red River, this would place too much risk on readiness. It recommended realigning Red River Army Depot by moving all maintenance missions, except for that related to the Bradley fighting vehicle series, to other depot maintenance activities, including the private sector.

Navy Shipyards

In 1799, Congress authorized five naval shipyards to be located at Portsmouth, New Hampshire; Boston, Massachusetts; New York, New York; Philadelphia, Pennsylvania; and Norfolk, Virginia. The Mare Island and Puget Sound shipyards were authorized in 1852 and 1891, respectively. The last four naval shipyards were authorized in this century: Charleston, in 1901; Pearl Harbor, in 1908; San Francisco (Hunters Point), in 1919; and Long Beach, in 1940.

From the earliest years, through World War I, naval shipyards were the principal logistics support element in the Navy's shore establishment. In addition to building and repairing ships, naval shipyards provided many support activities, such as supply support, medical and dental care, and training facilities. During the period between the World Wars, additional shore facilities were established to support the fleet and provide a wide range of support services. Naval shipyards were thus able to focus on their industrial mission of building, maintaining, and modernizing Navy ships. Employment peaked at over 380,000 personnel during World War II.

In 1968, naval shipyards stopped building ships in order to concentrate on repairing an increasingly complex fleet. This enabled the private sector to focus more on new construction. From the mid-1960s to the mid-1970s, the Navy closed three nonnuclear shipyards—New York, Boston, and Hunters Point—leaving six nuclear-capable and two nonnuclear naval shipyards. These closure decisions were made after careful studies indicated that there was excess capacity for the foreseeable peacetime and mobilization workloads.

During the post-Vietnam years, naval shipyards' employment peaked at 80,000 in 1983. Since then, naval shipyard employment levels have declined due to improved ship design techniques, reduced force levels, changes in maintenance philosophy, and austere budgets. As a result, the Philadelphia Naval Shipyard was selected for closure during the BRAC 1991 process and the Mare Island and Charleston naval shipyards were selected for closure during the BRAC 1993 process. All three shipyards will close in 1996. The employment level of the remaining five naval shipyards is projected to be 29,520 by the end of fiscal year 1996.

DOD recommended closing the Long Beach Naval Shipyard while retaining (1) the sonar dome in a government-owned, contractor-operated facility and (2) family housing units needed to fulfill Department of the Navy requirements. The 1995 BRAC Commission concurred with this recommendation.

Navy Aviation Depots

The first naval aviation maintenance depot was established in 1917 at Norfolk, Virginia, and was named the Construction and Repair Department. In 1923, this unit and two others formed by then—one at North Island and one at Pensacola—were redesignated as assembly and repair departments. In 1948, their names were changed to overhaul and repair departments. Prior to 1967, the aviation depots were under the cognizance of their respective air stations. The status of overhaul and repair departments at the six Navy and one Marine Corps air stations was changed in 1967 to that of separate commands, each called a naval air rework facility and directed to report to the Commander of the Naval Air Systems Command instead of the air station commanding officer. In 1987, the name naval aviation depot replaced the name naval air rework facility to more accurately reflect the range of their activities.

In 1973, the Naval Air Rework Facility, Quonset Point, Rhode Island, was closed under the Navy Shore Establishment Realignment Program. This was the first naval aviation depot to close in recent history. The 1993 BRAC Commission called for closing three more naval aviation depots—those located in Norfolk, Virginia; Pensacola, Florida; and Alameda, California. The depots remaining open are located at the Marine Corps Air Station at Cherry Point, North Carolina; the Naval Air Station at North Island, San Diego, California; and the Naval Air Station at Jacksonville, Florida.

The naval aviation depots went from a high of 35,690 employees in 1967, to 14,797 employees in 1995. Further planned reductions from closures and

downsizing are projected to reduce the number of employees to 10,707 by 1999.

DOD did not recommend additional aviation depot closures as a result of the 1995 BRAC process. However, it did recommend closing the Naval Surface Warfare Center, Louisville, Kentucky, which provides mission support for naval gun systems and the Naval Air Warfare Center, Aircraft Division, Indianapolis, Indiana, which provides in-service technical engineering support for naval avionics and electronics. Although these activities had not been previously categorized as depots, their missions include functions that the Air Force conducts in its in-house maintenance depots and that are largely funded by depot maintenance funding.

Marine Corps Depots

The two Marine Corps maintenance depots are now called multicommodity maintenance centers. The oldest, in Albany, Georgia, was established as the Repair Branch of the Marine Corps Supply Center in 1954. The other, located in Barstow, California, was established in 1961 as the Yermo Complex. The facilities have grown over the years as a result of additional mission responsibilities and the expansion of their industrial production capabilities. Today, each facility has just over 1,000 civilian employees and 10 Marine Corps officers. Each generally supports the same systems and commodities, except that Albany also supports the Marine Corps Maritime Prepositioning Forces program. Both Albany and Barstow perform a combination of intermediate and depot maintenance activities.

Air Force Depots

From 1918 to 1939, the Army Air Corps, from which the Air Force was created after World War II, operated four air depots. With the threat of global conflict in 1939, two additional depots were constructed. During World War II, the number of depots increased to 12. After the war, three depots were deactivated. In the early 1950s, during the Korean Conflict, the Air Force invested \$1.8 billion to upgrade the remaining nine depots, which became part of the Air Materiel Command. A 10th depot was activated in 1961 to house laboratories and management activities for the Air Force's metrology and calibration program and depot repair of inertial navigation systems for intercontinental missile systems and aircraft. The Air Force entered the 1960s with over 145,000 personnel at 10 logistics centers, including 62,000 depot maintenance personnel. In 1963 and 1964, 4 of the 10 depots were closed. The remaining six became the base of the Air Force Logistics Command in support of the Vietnam Conflict. Five of

the six were located on multifunction logistics bases called air material areas, which were responsible for both wholesale supply and depot maintenance activities for Air Force weapon systems and equipment. By the end of the 1960s, the Air Force Logistics Command had been reduced to 112,000 employees, including 50,000 depot maintenance personnel.

During the 1970s, the Air Force consolidated individual repair activities at its 6 depots, reducing the number from 52 to 20. This realignment eliminated duplicate repair sources for many commodity items. During the early 1980s, Air Force logistics operations grew as U.S. military forces were increased during the Reagan years. The Air Force undertook a major capitalization improvement program to modernize the depot industrial base with modern plant equipment and technological advancements. The Air Force Logistics Command employed 90,900 employees in 1986, including 40,800 depot maintenance personnel. In the 1990s, downsizing, consolidations, and cuts were made to the Air Force depot system, and the Air Force Logistics Command merged with the Air Force Systems Command to form the Air Force Material Command. Depot maintenance manning was reduced by 17 percent between 1990 and 1991. In 1995, the Air Force Material Command had 28,520 depot maintenance personnel.

The type of depot maintenance work accomplished at each of the Air Force depots includes the following:

- Ogden Air Logistics Center: strategic missiles, aircraft, air munitions, photo/reconnaissance, and landing gear;
- Oklahoma City Air Logistics Center: aircraft, engines, oxygen equipment;
- Sacramento Air Logistics Center: space/ground communications-electronics, aircraft, hydraulics, and instruments;
- San Antonio Air Logistics Center: aircraft, engines, and nuclear equipment;
- Warner Robins Air Logistics Center: aircraft, avionics, propellers, and life support systems; and
- Aerospace Guidance and Metrology Center: inertial guidance and navigation systems and components and displacement gyroscopes for intercontinental ballistic missiles and most Air Force aircraft.

The 1993 BRAC Commission recommended closing the Aerospace Guidance and Metrology Center, Newark, Ohio, which is being privatized-in-place. Although DOD did not recommend any additional depots for closure in 1995, the BRAC Commission recommended closing the San Antonio Air Logistics Center and Sacramento Air Logistics Center, which the Air Force also plans to privatize-in-place. The Air Force also has one depot-level

activity in Colorado Springs, Colorado, which performs software maintenance on Air Force space systems. This activity is not funded using depot maintenance funds and is not officially categorized as a depot. It is staffed with a combination of government and contractor personnel. Air Force contractors also maintain several government-owned, contractor-operated facilities used for repairing specific Air Force systems.

Other Depot Facilities

Naval Weapons Stations

The five existing naval weapons stations are descendants of the naval ammunition depots of World War II. However, these depots are no longer the major providers and maintainers of naval ordnance that they were in the past. In the 1970s, the Army, under the single manager concept, was assigned responsibility for producing and maintaining most of the Navy's high-volume conventional munitions and missiles. The naval weapons stations now maintain only small volume, miscellaneous items.

Naval Surface Warfare Center

The Naval Surface Warfare Center, Crane Division, supports the development, production, evaluation, and maintenance of electronic and mechanical products integral to combat weapon systems. The Crane Division employs about 5,380 personnel. Commissioned in 1941 as a naval ammunition depot, Crane was one of four inland activities constructed to load, store, and issue ammunition to the fleet. Today, the Crane Naval Surface Weapons Center serves as a modern sophisticated leader in diverse and highly technical product lines, such as microwave devices, acoustic sensors, and microelectronic technology.

The Louisville, Kentucky, site of the Crane Division was commissioned by the Navy in 1941 to produce ordnance material and munitions for World War II. Louisville employed 4,480 personnel at its peak during World War II. Today, it provides major overhaul and engineering support for naval gun and missile launching systems. It is the Navy's center for producing small weapon system parts using flexible computer integrated manufacturing technologies and methods.

Naval Undersea Warfare Center

The Navy's undersea warfare munitions capability was originally established in 1914. In recent years, depot maintenance for undersea

warfare systems has been consolidated at the Naval Undersea Warfare Center, Keyport, Washington. The consolidation was done to recognize the inherent efficiencies of having a single national depot maintenance center for the Navy's family of torpedoes. Among its assigned duties, the Naval Undersea Warfare Center is responsible for maintaining and repairing undersea weapons and systems, underwater targets, and countermeasure devices.

Since the end of the Cold War, workload at the Undersea Warfare Center has followed a downward trend like the other warfare centers. Direct workload has declined from a peak of 821 work years in the late 1980s to 609 work years in fiscal year 1994, representing a 27-percent decline. The workforce has declined by over 800 personnel.

Space and Naval Warfare Systems Command

The Space and Naval Warfare Systems Command relies on two maintenance depots for repairing electronic systems. The Command's western depot, at San Diego, California, is its major depot facility and serves as the designated overhaul point and repair facility for assembly modules and printed circuit boards drawn from electronic warfare, special communications, teletype, crypto, and communications equipment. The depot has grown from a small 80-person calibration and repair shop in 1966 to a complex that in September 1994 employed 100 government personnel and 175 personnel of a government-owned, contractor-operated facility.

The Command's eastern depot at Norfolk, Virginia, is the former Naval Electronic Systems Engineering Center, Portsmouth, Virginia. It is a contractor-owned, contractor-operated facility. As of September 1994, it had 133 personnel assigned.

Defense Logistics Agency

The Defense Logistics Agency maintains an industrial plant equipment repair facility in Mechanicsburg, Pennsylvania. The facility was originally established as a Navy activity during World War II but was assigned in the early 1960s to Defense Depot, Mechanicsburg. It performed depot maintenance repair for industrial plant equipment for all of the services.

Under the Defense Logistics Agency, the facility continues to provide worldwide support to all of DOD. Its mission is to maintain, repair, rebuild, retrofit, and install industrial equipment. The facility specializes in repairing computerized numerical controlled metal working machinery. It

Appendix I
History of the Services' Depot Systems

also can provide support for most types of equipment used in industrial and maintenance support operations and employs 129 civilian employees.

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